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POPULAR
DICTIONARY OF ARCHITECTURE
AND THE ALLIED ARTS.

VOL. III.

POPULAR
DICTIONARY
OF
ARCHITECTURE
AND
THE ALLIED ARTS.

A WORK OF REFERENCE
FOR THE ARCHITECT, BUILDER, SCULPTOR, DECORATIVE
ARTIST, AND GENERAL STUDENT.

WITH
NUMEROUS ILLUSTRATIONS FROM ALL STYLES OF ARCHITECTURE,
FROM THE EGYPTIAN TO THE RENAISSANCE.

BY
WILLIAM JAMES AUDSLEY,
FELLOW OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS;
AND
GEORGE ASHDOWN AUDSLEY,
FELLOW OF THE ROYAL INSTITUTE OF BRITISH ARCHITECTS,
MEMBER OF THE ASIATIC SOCIETY OF JAPAN,
ETC., ETC.

VOL. III.

NEW YORK:
G. P. PUTNAM'S SONS.
LONDON:
SAMPSON LOW, MARSTON, SEARLE, & RIVINGTON.

MDCCCLXXII.

TO

SIR FREDERICK LEIGHTON, D.C.L., LL.D.,

PRESIDENT OF THE ROYAL ACADEMY;

MEMBER OF THE ROYAL SCOTTISH AND ROYAL HIBERNIAN ACADEMIES;

CORRESPONDING MEMBER OF THE INSTITUTE OF FRANCE;

MEMBER OF THE ACADEMY OF FLORENCE,

AND THE

ACADEMY OF SAINT LUKE, ROME, &c.;

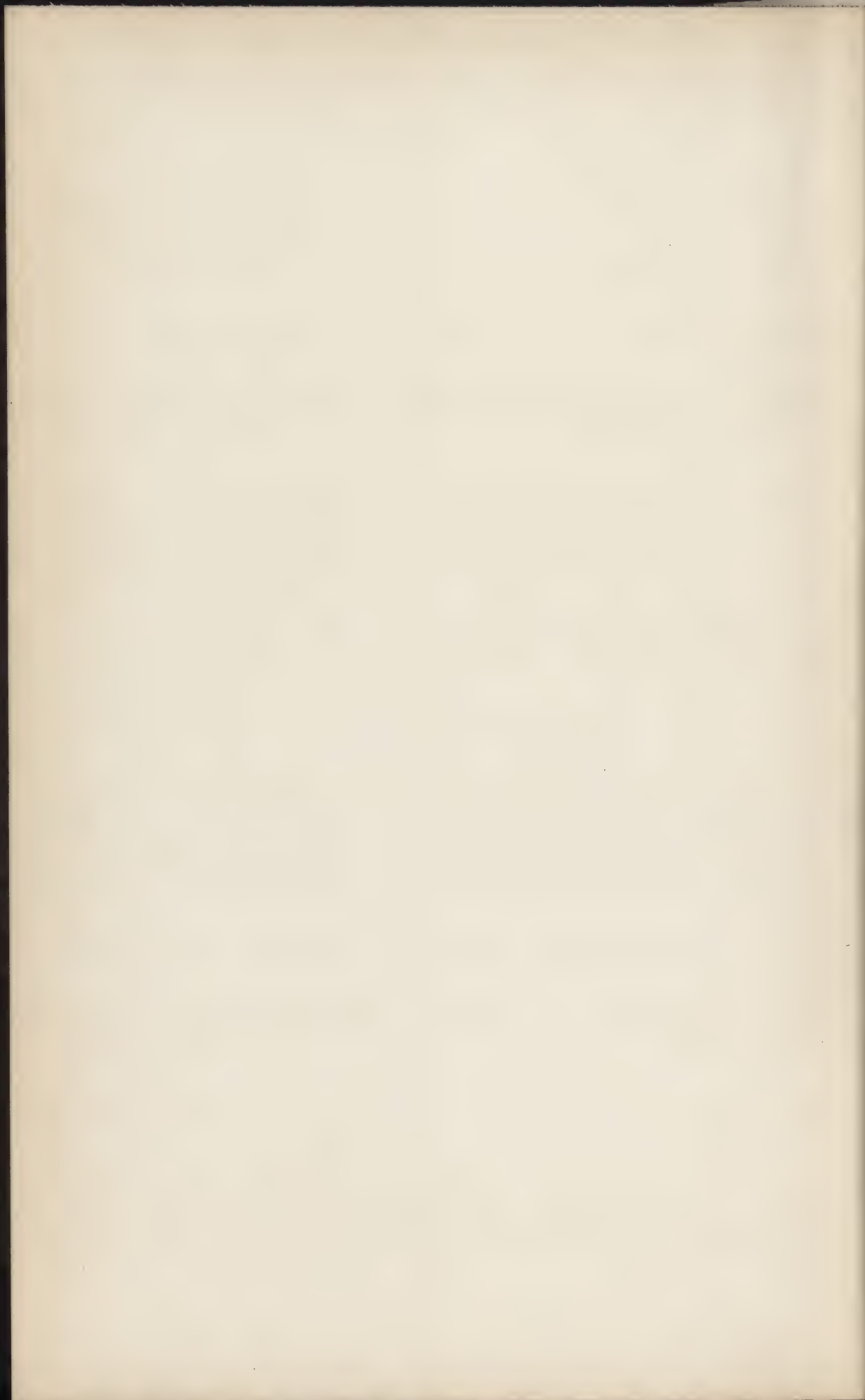
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WITH FEELINGS OF THE HIGHEST APPRECIATION AND ESTEEM,

BY

THE AUTHORS.



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B

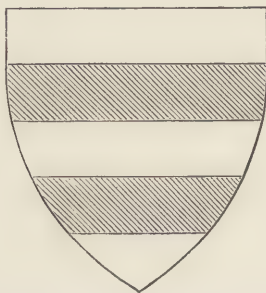
BAR. This term has several significations. It is used to designate an apartment or enclosed space in an hotel or tavern, which serves as a counting-house; an office where visitors may obtain all information in connexion with the establishment; a place where wine, spirits, or other refreshments may be immediately obtained; and a species of semi-private parlour, where the housekeeper and the other superior members of the household live during the day so as to be in readiness to attend to all comers. Its position should be such as to command the public entrances or passages to the interior of the house; and to facilitate a view of all that goes on therein, its sides are usually glazed above counter height. The apartment is generally furnished as a comfortable sitting-room and also as a counting-house, with desk, safe, &c. Near one of its sides, adjoining the entrance vestibule or passage, are commonly fitted up all the ordinary appliances for the convenient service of wines, spirits, and malt liquors.

The term is also applied to the enclosure in a court of law in which the officials and attendants are accommodated, and outside which the public is seated. The dividing partition is usually about breast high, and is strongly formed of oak or other durable wood. In the houses of parliament the bar is a partition, of similar height, which divides a space near the entrance from the body of each house.

The gateways or gatehouses in the walls of towns, erected during the middle ages, or those dividing a city from its suburbs, have occasionally been called bars. "Temple Bar," in London, remained until recently a well-known example. Other examples exist in York.

In architectural and building nomenclature, the term bar is applied in a general sense to any piece of wood or metal of moderate dimensions, placed so as to form a guard or protection in an opening or passage-way. It may be horizontal or vertical, fixed or movable, according to circumstances. Movable pieces of wood or iron, formed to slide, or pivotted so as to revolve into fixed sockets, behind gates or doors, are also termed bars. These bars were frequently used during the middle ages; and obtain in some country places in the present day. The moulded and rebated pieces of wood or metal which divide and support the panes of glass in windows are known as SASH-BARS or WINDOW-BARS.

In heraldry, the term bar is used to designate one of the nine honourable ordinaries. It is formed by two lines drawn horizontally across the field of the shield and enclosing one-fifth of its height. The enclosed portion is the bar. This ordinary can be placed in any part of the shield except absolutely in chief or in base. The bar differs from the ordinary, called *the fesse*, which bears a close resemblance to it, in two particulars; the fesse is one-third of the shield in depth, whilst the bar is one-fifth; the fesse invariably occupies the central division of the shield, whilst the

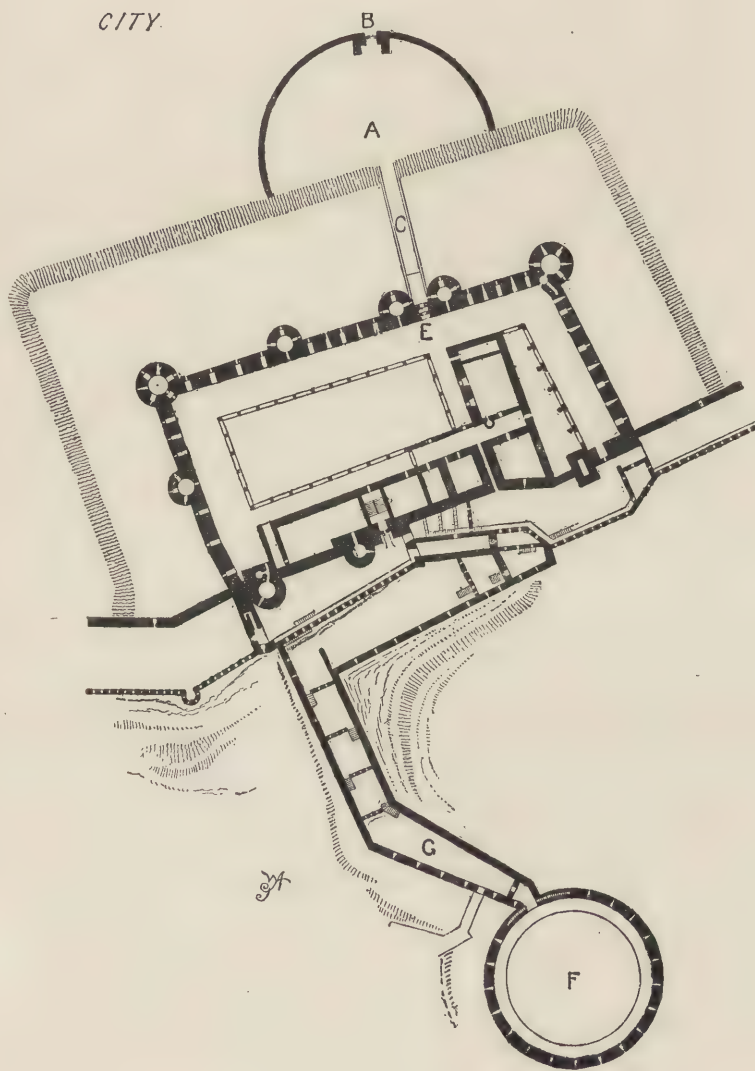


bar is movable. A single bar never appears on a heraldic shield without some other ordinary; but two bars are often introduced, as shown in the accompanying cut. (Example—*Argent, two bars, vert.*)

BARBACAN OR BARBICAN. This term is now almost universally understood to signify an advanced tower or outwork before the entrance-gate of a castle or fortified town.* Grose thus describes it:—"To begin

* "BARBACANE, *barbequenne*, s. f. On désignait pendant le moyen âge, par ce mot, un ouvrage de fortification avancé qui protégeait un passage, une porte ou poterne, et qui permettait à la garnison d'une forteresse de se réunir sur un point saillant à couvert, pour faire des sorties, pour protéger une retraite ou l'introduction d'un corps de secours. Une ville ou un château bien munis étaient toujours garnis de barbicanes, construites simplement en bois, comme les *antemuralia*, *procastria* des camps romains, ou en terre avec fossé, en pierre ou moellon, avec pont volant, large fossé et palissades antérieures. La forme la plus ordinaire donnée aux barbicanes était la forme circulaire ou demi-circulaire, avec une ou plusieurs issues masquées par la courbe de l'ouvrage. Les armées qui campaient avaient le soin d'élever devant les entrées des camps de vastes barbicanes, qui permettaient aux troupes de combiner leurs mouvements d'attaque, de retraite ou de défense. Au moment d'un siège,

from without, the first member of an ancient castle was the *Barbican*, a watch-tower, for the purpose of descrying an enemy at a greater distance. It seems to have had no positive place, except that it was always an out-



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work, and frequently advanced beyond the ditch; to which it was then joined by a drawbridge, and formed the entrance into the castle. Barbicans are mentioned in Framlingham and Canterbury castles. For the repairing

en dehors des murs des forteresses, on élevait souvent des barbicanes, qui n'étaient que des ouvrages temporaires, et dans lesquelles on logeait un surcroît de garnison."—Viollet-le-Duc. *Dict. Rais. de l'Arch. Française.*

of this work a tax, called Barbicanage, was levied on certain lands."¹ There appears to have been no special form or proportions for the barbican, but when placed directly before a gate, it was usually semicircular; and when erected considerably in advance of the walls of a fortress, it commonly assumed the form of a circular tower. As the plan of the mediæval castle of Carcassonne (Aude) furnishes good examples of both these forms, we give it here. (Fig. 1².) A is the barbican towards the interior of the city, a semicircular space of considerable dimensions enclosed by a lofty battlemented wall, which terminated at both ends in the fossé or moat, D. The entrance to the barbican from the city was strongly defended by a tower, B. From about the centre of the enclosure a bridge, C, extended across the moat to the drawbridge of the principal gate of the castle, E. On the opposite side of the fortress, and at a considerable distance from its main walls, was erected the circular barbican, F, a battlemented tower pierced with loop-holes for the discharge of arrows and bolts. It was surrounded by a moat, except where it was connected with the outworks of the fortress by the passage, G. The Narbonne gate of the city of Carcassonne was protected by two semicircular barbicans, one of stone projected from the "lines," and an outer one of strong palisades. The latter covered all approach to the main barbican, and had to be forced before the besiegers could attack its entrance. For illustrations and further information on this subject we may refer the reader to M. Viollet-le-Duc's *Essay on the Military Architecture of the Middle Ages*.³

According to Ducange the terms ANTEMURALE, PROMURALE, and MURUS EXTERIOR were applied to this portion of a fortress.⁴

BARBARA, ST. Virgin and Martyr, and one of the Patron Saints of Mantua, Ferrara, and Guastala. St. Barbara was one of the most popular of the early martyrs during the age of chivalry; being accepted in the middle ages as the Patroness of armourers, and of military engines, arms, and fortifications. She frequently appears in the paintings and miniatures of illuminated manuscripts executed in the fourteenth and fifteenth centuries. Her legend is very similar according to both the Eastern and Western churches, and is thus given in the *Legenda Aurea*:—"There was a certain man named Dioscorus, who dwelt in Heliopolis; noble, and of great possessions; and he had an only daughter, named Barbara, whom he loved exceedingly. Fearful lest, from her singular beauty, she should be demanded in marriage and taken from him, he shut her up in a very

¹ Preface.—*Antiquities of England and Wales*.

² Reproduced from the plan in *Dict. Rais. de l'Arch. Française*.

³ Translated from the French by M. Macdermott. Parker, Lond., 1860.

⁴ "BARBACANA, Propugnaculum exterius, quo oppidum aut castrum, præsertim verò eorum portæ aut muri muniuntur: unde Antemurale, promurale, & murus exterior, non semel appellatur, cujus vocis originem plerique ab Arabibus accersendam putant . . . Charta Petri Regni Majoricarum Domini ann. 1232. Qui affrontat . . . à meridiè cum antemurali, qui dicitur Barbacana, qui est murus brevis ante murum nostri orti."—*Glossarium*.

high tower, and kept her secluded from the eyes of men. The virtuous Barbara, in her solitude, gave herself up to study and meditation; from the summit of her tower she contemplated the stars of heaven and their courses; and the result of her reflections was, that the idols of wood and stone worshipped by her parents could not be really gods—could not have created the wonders on which she meditated night and day. So she contemned, in her heart, these false gods; but as yet she knew not the true faith.

“Now, in the loneliness of her tower, the fame reached her of a certain sage who had demonstrated the vanity of idolatry, and who taught a new and holy religion. This was no other than the famous doctor and teacher, Origen, who dwelt in the city of Alexandria. St. Barbara longed beyond measure to know more of his teaching. She therefore wrote to him secretly, and sent her letter by a sure messenger, who, on arriving at Alexandria, found Origen in the house of the Empress Mammea, occupied in expounding the Gospel. Origen, on reading the letter of St. Barbara, rejoiced greatly; he wrote to her with his own hand, and sent to her one of his disciples, disguised as a physician, who perfected her conversion, and she received baptism from his hands. Her father, Dioscorus, who was violently opposed to the Christians, was at this time absent: but previous to his departure he had sent skilful architects to construct within the tower a bath-chamber of wonderful splendour. One day St. Barbara descended from her turret to view the progress of the workmen, and seeing that they had constructed two windows, commanded them to insert a third. They hesitated to obey her, saying, ‘We are afraid to depart from the orders we have received.’ But she answered, ‘Do as I command: ye shall be held guiltless.’ When her father returned he was displeased; and he said to his daughter, ‘Why hast thou done this thing, and inserted three windows instead of two?’—and she answered ‘Know, my father, that through three windows doth the soul receive light—the Father, the Son, and the Holy Ghost; and the Three are One.’ Then her father, being enraged, drew his sword to kill her, and she fled from him to the summit of the tower, and he pursued her; but by angels she was wrapt from his view, and carried to a distance. A shepherd betrayed her by pointing silently to the place of her concealment; and her father dragged her thence by the hair, and beat her, and shut her up in a dungeon;—all the love he formerly felt for his daughter being changed into unrelenting fury and indignation when he found she was a Christian. He denounced her to the pro-consul Marcian, who was a cruel persecutor of the Christians: the pro-consul, after vainly endeavouring to persuade her to sacrifice to his false gods, ordered her to be scourged and tortured horribly; but St. Barbara only prayed for courage to endure what was inflicted, rejoicing to suffer for Christ’s sake. Her father, seeing no hope of her yielding, carried her to a certain mountain near the city, drew his sword, and cut off her head with his own hands; but as he descended the mountain, there came on a most fearful tempest, with thunder and lightning, and fire fell

upon this cruel father and consumed him utterly, so that not a vestige of him remained.”*

This legend has not proved highly suggestive in an art point of view ; and, accordingly, we find that artists seldom depicted scenes from the life of the saint. Her martyrdom had nothing specially remarkable or horrible about it, if one lays aside the thought that her executioner was her once loving father ; but nevertheless it has been often painted. Representations of her martyrdom do not vary much ; in all her father appears, wearing a turban, the attribute of paganism. Mountains mark the situation ; and stormy clouds foretell the doom of the unnatural executioner. Her attribute, the tower, usually appears in the distance.

As the conversion of St. Barbara sprang from her contemplation of the starry heavens whilst secluded in her tower, it is quite in accord with the method of the middle age artists that a tower should be introduced as her chief attribute. In addition to this, she, in the capacity of a martyr, bears the sword, palm branch, and crown ; and, in allusion to her studious life, she is sometimes depicted carrying or reading a book.

There is another attribute, however, which must not be overlooked, namely, the chalice and sacramental wafer. This was not derived from her legend, but was given to her as the protectress against sudden death. It was a belief in the middle ages that all who devoted themselves to her altar or service should not die without receiving the Holy Sacrament. She sometimes carries the chalice in her hands ; at other times it is placed in the doorway or one of the windows of her tower. There is only one other female saint to whom the chalice has been given as an attribute, St. Othilla, Virgin and Abbess.† St. Barbara was also venerated as the special protectress against lightning and fire-arms—the most potent and unannounced emissaries of death. “As patroness of fire-arms and against sudden death, the effigy of St. Barbara is a frequent ornament on shields, armour, and particularly great guns and field-pieces. I found her whole history on a suit of armour which the Emperor Maximilian sent as a present to Henry VIII. in 1509, and which is now preserved in the Tower. On the breast-plate is St. George as patron of England, vanquishing the dragon ; on the back-plate, St. Barbara, standing majestic, with her tower, her cup, and her book. On the horse-armour we have the history of the two saints, disposed in a regular series, each scene from the life of St. George being accompanied by a corresponding scene from the life of St. Barbara. 1. St. George, mounted on horseback, like a knight of romance, riding forth in search of adventures. St. Barbara, attended by two maidens, directs the building of her tower ; a man is ascending a ladder with a hod full of bricks. 2. St. George is accused before the Emperor. St. Barbara is pursued by her father. 3. St. George is tortured by the wheels. St. Barbara is scourged. 4. St. George is beheaded by an executioner.

* As quoted in *Sacred and Legendary Art*.

† *Solitudo, sive vitæ Fæminarum Anachoritarum*. Jollain exedit, 1666.

St. Barbara is beheaded by her father, who seizes her by the hair in the usual manner, amid the raging of a tempest."¹

St. Barbara is occasionally depicted carrying a feather in her hand; this is taken from one of her legends, which states that at her scourging the rods were miraculously changed to feathers. Two fine pictures, by Michael Coxis and Van der Goes, show St. Barbara with a peacock's feather. The former is in the Munich Gallery; the latter in the Gallery of Florence.

Other variations in representations of St. Barbara may be briefly enumerated. The saint with the tower in the background; a monstrance, with the Sacred Host, in her left hand; a burning torch in her right; and her head wreathed and crowned with a church-like building.—Window in Cossey Hall chapel. Wearing an elaborate head-dress, with the tower in front as an ornament.—Painting by Van Eyck. Carrying a spear and palm branch.—Painting in the Vienna Gallery. With cannon at her feet.—In Church of St. Maria Formosa, at Venice. Trampling on the prostrate form of her father.—MS., in the Bodleian Library.

As the daughter of a rich prince, she is usually sumptuously dressed; but when crowned it is not in her capacity of princess, but as a martyr.

The only church dedicated to her honour in England is at Ashton-under-Hill, Gloucestershire. Her name does not appear in the English calendars. In the Scottish, French, German, Spanish, and Greek calendars her day is December 4th. She is also commemorated by the Roman Church on that day. She suffered martyrdom in the year A. D. 303.

BARBARICUM, OPUS. (*Lat.*) One of the terms given by the Romans to the species of flooring formed of a cement in which small fragments of variously coloured marbles were closely inserted, and afterwards ground to a uniform surface and polished.²

BARBE. In the female costume of the fifteenth and sixteenth centuries, the barbe was a piece of linen, commonly plaited, worn over the chin close to the lip, or underneath the chin, according to the station in life of the wearer. The barbe is met with both in the monumental effigies and brasses of the fifteenth century. In the *Ordinance for the Reformation of Apparell for great Estates of Women in the tyme of Mourning*,³ by Margaret, Countess of Richmond, mother of Henry VII., it is stated that the queen, and all ladies down to the degree of baroness, are licensed to wear the barbe above the chin. Baronesses, lords' daughters, and knights' wives, are ordered to wear the barbe immediately underneath

¹ Mrs. Jameson.—*Sacred and Legendary Art*.

² "BARBARICUM OPUS. A Roman term, which was correspondent, according to Pliny xxxvi, 61, with the OPUS SUBTEGULANEUM, and signified the best sort of composition floors, *opus signinum*, in which pieces of marble of all shapes and colours were imbedded; in these floors the chief aim was to collect the greatest variety of marbles; they seem to have preceded and to have suggested mosaics."—*Dict. of Arch.*, Arch. Pub. Soc., Lond.

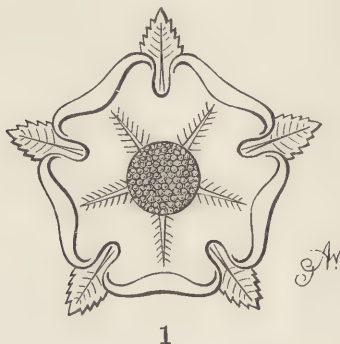
³ Harleian MS., No. 6064.

it; and all chamberers and other women, "below the throat goyll," or gullet, that is, the lowest part of the throat.

Chaucer, in his *Troilus and Cresseide*, makes Pandarus bid Cresseide, who is in widow's attire, to do away her barbe and show her face bare.

In the *Ladies' Dictionary*, of 1694, the barbe is described as "a mask or vizard."*

BARBED. Literally, bearded. In heraldry, the term applied to a



flower when represented like the heraldic rose, with the points of small green leaves issuing from behind it, as in the accompanying illustration, Fig. 1. It also signifies pointed like an arrow.

BARCELLA. A late Latin name for the navette, or incense boat or ship, the small vessel used for containing incense, and from which the thurible or censer is charged at the altar.† (See *Navette*.)

BARGEBOARD OR VERGEBOARD. A feature first introduced in the architecture of the fourteenth century, appearing chiefly in domestic buildings and such church porches as were constructed of timber. It consists of a broad board, more or less richly carved or traceried, placed in advance of a gable, underneath the bargecourse, and covering the barge rafters, or taking their place.

Bargeboards are, strictly speaking, ornamental adjuncts, not being necessarily integral portions of the roof structure. There is no question that, beautifully carved and pierced as they commonly are, they impart great character and richness to the timber buildings of the fourteenth and two following centuries. Fortunately, sufficient ancient examples remain, at home and abroad, to acquaint us with the several types introduced during those centuries; but it must not be forgotten that, in the

* J. R. Planché.—*Cyclopædia of Costume*.

† "BARCELLA, quæ alias *Navicula* dicitur, vas Ecclesiæ, in qua thus reponitur ad incensum, Acerra. Charta an. 1197. apud Ughellum to. 7. Ital. sacr. pag. 1274. *Barcellam unam æneam & super auratam pro incenso immittendo, &c.*"—Ducange.—*Glossarium*.

nature of things, they are disappearing year by year; gradual decay and the increasing value of land in towns both tend to sweep away such interesting works.

Bargeboards do not appear to have been usually adopted in church architecture beyond being introduced in some instances in lateral porches. The gable of the north transept of Sutton church, Sussex, may be given as one example of their use.¹ The stone porch of Merrow church, Surrey,



1

and the wooden porch of Horsemonden church, Kent, have bargeboards of the Decorated period.² These are good illustrations of the earliest treatment of the feature, being boldly cusped; those at Horsemonden having two orders of cusps, as in the rich tracery of the period. Comparatively few examples of fourteenth century bargeboards exist, but they all point to the fact that the cusped or traceried forms were those universally adopted by the architects of the time.³ The small spandrils, between the cusps and the bargecourse, were usually pierced as portions of the tracery, or carved into foliage of simple design.

In the fifteenth century bargeboards were largely introduced in domestic architecture, and their designs became very varied, especially towards the

¹ *Glossary*, vol. i., p. 58.

² Illustrations of these are given in Rickman's *Attempt to Discriminate, &c.*, Sixth Edition, pp. 311 and 312.

³ On Plate 93 of the *Glossary* (Fifth Edition) are given drawings of two bargeboards, dating about the middle of the fourteenth century, from houses in Salisbury.

beginning of the following century. The cusped form obtained, however, throughout the Perpendicular period, differing from the earlier only in the form of the cusplings and the details of the carved work. Fig. 1, from a house in Rochester, is a good example of a Perpendicular cusped bargeboard, with the spandrils filled with simple carved leaf-work; and Fig. 2, from Oakwells, Berkshire, is one of great richness, showing the manner in which the cusplings join at the apex of the gable. The bargeboards of



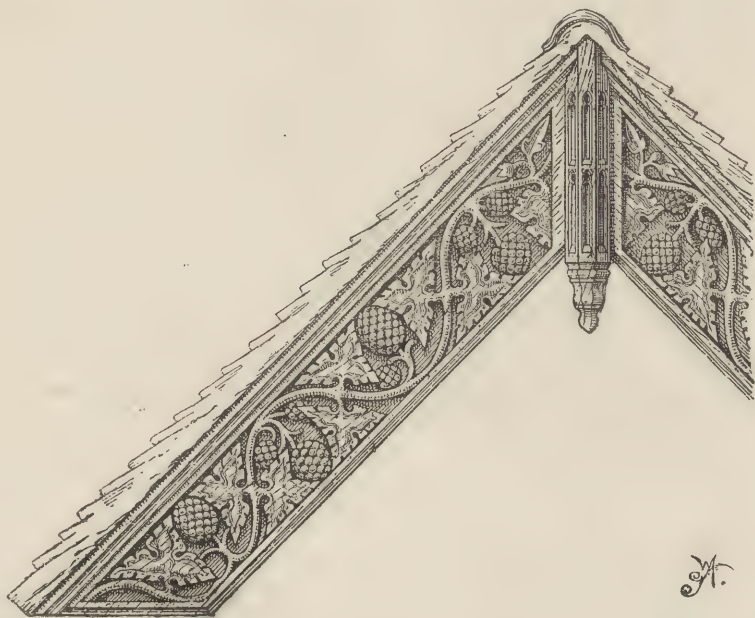
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the fifteenth century, although more varied and elaborate in design than those of the Decorated period, were not so thick, and accordingly not so boldly and deeply cut. Three beautiful examples of Perpendicular bargeboards, in which the tracery is in two orders, from houses in Coventry, are given by Pugin in his *Ornamental Gables*.*

In the early years of the sixteenth century, before Pointed architecture died out with Henry VIII., bargeboards became flatter and stiffer, the pierced and cusped form giving way to straight boards, decorated with surface carving or tracery in low relief. The finest existing specimens of these are probably to be found in Bond's and Ford's hospitals, at Coventry, the former founded in 1506, and the latter twenty-three years later. Fig. 3 is a characteristic example of the carved bargeboard, from Bond's hospital. It also shows a pendant at the apex of the gable, against which the bargeboards terminate. Such a feature was very commonly intro-

* Plates 2, 4, and 5.

duced in the fifteenth and sixteenth centuries, and frequently it was carried upwards above the ridge, and formed into some description of ornamental finial or terminal.* The straight bargeboards, however richly they may be ornamented on the surface, are very ineffective in comparison with the earlier ones, with their boldly cusped edges or flowing outlines ;



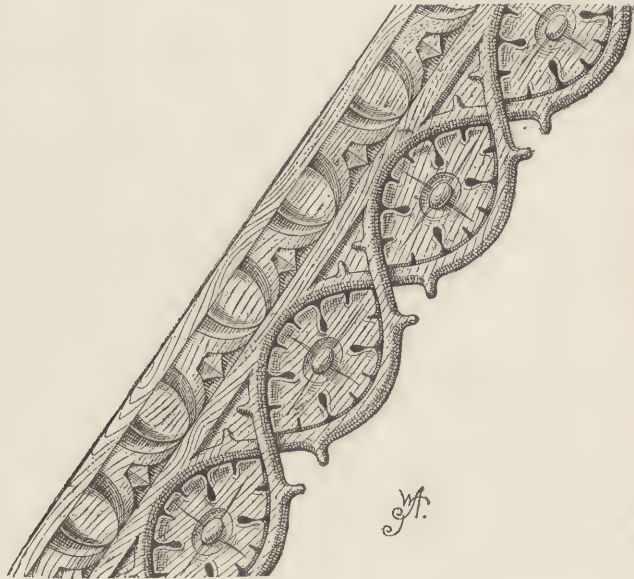
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and, as the surface ornamentation is almost lost to the eye when viewed from a short distance, they assume an extremely heavy appearance, and one which in the generality of cases is far from satisfactory.

In the sixteenth century domestic buildings of the north of France, where timber construction was chiefly adopted, many examples of richly ornamented bargeboards are to be met with. These, as might be expected from the much earlier introduction of the taste for Italian or Roman architecture in France than in this country, show a decided departure from Gothic forms. In Fig. 4, from a house in Abbeville (Somme), this departure is very clearly marked, whilst in Fig. 5 all trace of Gothic detail has disappeared. Old Abbeville appears to have been very rich in specimens of the timber architecture of the sixteenth century ; and even at the present day numerous interesting examples are to be found in its narrow and not over-clean streets.

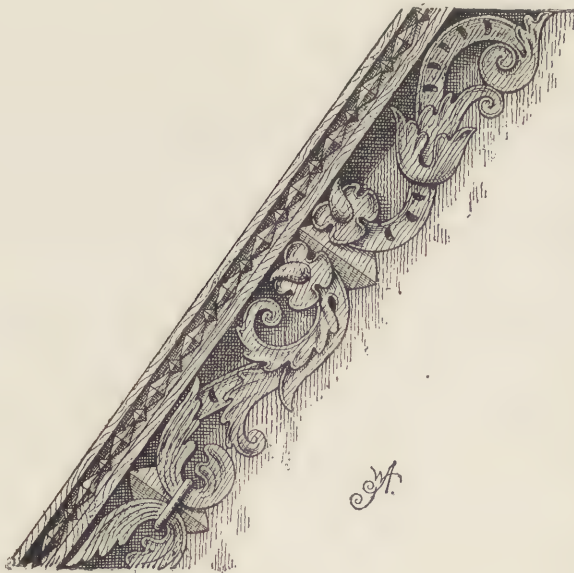
* The term *hipknob* has commonly been applied to this terminal piece, but it is simply a specimen of loose nomenclature. The hipknob is, strictly, an ornament or terminal which surmounts the point where the hips of a roof join, and can have no existence on a gable.

Bargeboards continued to be used in the timber buildings of the seventeenth century, but specimens of so late a date are usually of very little



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interest. The feature, born of Gothic architecture, was at that time



5

worn out, and assumed either a thoroughly enervated character, or the inoffensive form of a narrow board with straight mouldings.

BARGE COURSE. The term commonly applied to the portion of the tiling of a roof which projects beyond the face of a gable, and immediately under which the bargeboard is fixed.

BARMKYN OR BERMKYN. An old term, most probably a corruption of the word *barbican*, signifying an outwork or advanced fortification of a castle or town.¹

BARN. A building constructed for the reception of certain descriptions of agricultural produce, with the view of protecting them from injury by the weather. A barn, of greater or lesser dimensions, has been considered an indispensable part of all farm buildings in this country, from the earliest times.

Wherever cereal crops were raised, some description of a barn would soon be found necessary, and especially so in countries liable to sudden changes of weather and heavy falls of rain. The Romans constructed barns covered with roofs, but with partly open sides, in which crops were stored to be thoroughly dried before being thrashed, and in which the straw was in all probability subsequently placed.²

Probably the finest barns which were ever built were those of the middle ages in England and France. They chiefly belonged to the monastic granges or farming establishments. Two or three examples may be alluded to in proof of our statement. At Cholsey, in Berkshire, a barn stood until a few years ago which measured about three hundred and three feet in length, fifty-four feet in width, and fifty-one feet in height. The roof was supported by thirty-four pillars,³ arranged in two rows; the roof was a truly vast construction, arising from side-walls only about eight feet high to its ridge at fifty-one feet from the floor. Timber pillars or supports were sometimes introduced under roofs of a large span, as at Great Coxwell, Berkshire, where, as in the Cholsey barn, they are in two rows, dividing the interior into a central space, with lateral ailes.

Fine barns were also erected on the Continent; indeed that of the abbey of Ardenne, in Normandy, built in the thirteenth century, surpasses anything known to have existed in England. It is buttressed externally, nine bays in length, and is divided into a main body and ailes by two rows of circular pillars carrying pointed arches. The roof is, as usual, unbroken in its slope externally.

¹ "BARMKYN, BERMKYN, Sc. The rampart or outer fortification of a castle. If not a corruption of barbican, it may be derived from the tent, barn, bearm, or berm, a mound or rampart, and kin.—*Jamieson's Etym. Dic.*"—Britton. *Dict. of Arch. and Archaeol.*

² "Attached to the area (thrashing-floor) was a huge shed or half-enclosed barn (*nubilarium*), of sufficient dimensions to contain the whole crop. Here the corn was dried in unfavourable seasons before being thrashed, and hither it was hurriedly conveyed for shelter when the harvest work was interrupted by any sudden storm."—W. Ramsay, M.A., in *Dict. of Greek and Roman Antiq.*

³ In a description of this barn, given in *The Beauties of England and Wales* (vol. i., p. 157), the pillars are stated to have measured "four yards in circumference."

The following particulars, extracted from Parker's *Domestic Architecture of the Middle Ages*, cannot fail to be of interest to the student of architecture :—

“The barn at first sight bears much resemblance to the other more important buildings, as it is often of considerable size, firmly and substantially built, and strengthened with modern buttresses; but it may readily be distinguished by the small size of its windows, which could never have been intended but to give air to the interior, as generally admitting scarcely any light whatever.

“There are probably many barns existing in England of great antiquity, though from the plainness of structure and absence of architectural detail it is most difficult or sometimes impossible to assign to them any date. There are, however, some celebrated examples belonging to the fourteenth century, as Glastonbury, Wells, and Pilton, in Somersetshire; Coxwell, Berkshire; Peterborough (lately destroyed for the railway); Abbotsbury, Dorsetshire. These are large cruciform structures which would put to shame many a modern church; what little ornament there is, such as the dripstones over the doorways and the finials on the points of the gables, are often very well executed. In some cases in the abbey barns ornaments of sacred character are introduced, as at Pilton, where the emblems of the four evangelists are introduced in the gables; this is, however, not earlier than the time of Richard II., and belongs rather to the Perpendicular style than the Decorated.

“Some of these barns are divided into a nave and aisles, like a church, but the side walls are generally low, there being no clerestory, the shape of the roof is continued and brings the eaves not very far from the ground. This mode of construction affords a good illustration of the manner in which a great number of our early churches were built, with low and narrow aisles; many of them remain in their original state, especially in Sussex, but in general the aisles have been rebuilt and enlarged.

“Farm buildings and barns of the fifteenth century may frequently be met with in those parts of the country where the building-stone is of good quality, and the barns sometimes have fine timber-roofs, as at Harmondsworth, in Middlesex.

“In general they differ little from modern barns, excepting that they usually have buttresses of Gothic character, and are cruciform, sometimes with two transepts, at the ends of each of which are the large folding-doors, with a four-centred arch over them, and generally a finial of the style of foliage used at this period, square-leaved and angular.”

BARNABAS, ST. Apostle and Martyr. Though not one of the twelve chosen by our Lord, St. Barnabas has always been held as an apostle by the Church; and his zealous labours, along with St. Paul, in spreading the Gospel, fully entitle him to that distinction. He was second only to the chosen Apostles in the measure of inspiration and the directness of authority.

St. Barnabas was born in the island of Cyprus, of Jewish parents of the tribe of Levi. “His name was at first Joses, but by the Apostles changed into Barnabas, ‘which being interpreted,’ says St. Luke, ‘is the Son of consolation;’ and, as may be conjectured from the place in the Acts of the Apostles where it is first mentioned, was given him by the Apostles as an honourable acknowledgment of his charity in selling his whole estate for the relief of the poor Christians, and upon the account of that consolation which they received thereby. He was educated at the feet of

Gamaliel, together with St. Paul, which perhaps moved that great Apostle upon his conversion to apply himself to him as the most proper person to introduce him into the acquaintance of the other Apostles; and afterwards to embrace him as his chief friend and fellow-labourer in the work of the Gospel. How they travelled together and what they did in the discharge of their ministry is fully detailed both by St. Luke in the Acts of the Apostles, and by St. Paul himself in his Epistle to the Galatians. What became of St. Barnabas, subsequent to the separation of the two Apostles after a joint labour in the ministry for almost fourteen years, on account of their difference about taking with them John, surnamed Mark, is uncertain. According to one account, St. Barnabas came into Italy and preached the Gospel in Liguria, where he founded the ancient Church of Milan; others relate that he passed into Egypt and consecrated his nephew, St. Mark, the first bishop of the Christian Church at Alexandria. The remainder of his life seems to have been spent by St. Barnabas in his native island, converting his own countrymen, the Jews."¹

According to tradition, he became a believer on witnessing the miracle of our Lord at the pool of Bethesda. If such was the case, the suddenness of his own conversion may have been the reason of his early and active espousal of Saul's claim, for it was St. Barnabas who took Saul and introduced him to the disciples at Jerusalem, answering for him as to the truth of his conversion and the boldness of his preaching at Damascus.² Tradition also states that St. Barnabas was the first preacher of the Gospel in Rome, but this statement is without good foundation. Trustworthy information as regards his death is wanting, but both the Eastern and Western Churches agree that he suffered martyrdom. It is believed that he was stoned to death by his countrymen at Salamis, in Cyprus, sometime between the years A.D. 50 and 65. The day of his death appears to be universally accepted as June 11; it is thus fixed in the Roman, Greek, Old English (Sarum Use), Scottish, French, German, and Spanish calendars.³ His legend states that his body was buried by his Christian brethren a short distance from Salamis, and that a copy of the Gospel of St. Matthew, in Hebrew, and supposed to have been written by the saint,

¹ *Eng. Ch. Union Kal.*, 1864, Part ii., p. 61.

² Acts ix. 26, 27.

³ "It is also remarkable that from early times the day was kept in the Eastern Church in honour of Bartholomew as well as of Barnabas. When the second saint's name was added is quite uncertain, but there are good grounds for believing that the day was originally sacred to Barnabas only. In the *Menologium Basilianum*, edited by command of the Emperor Basil in the year 886 A.D., the day is the joint festival of the two saints. At what time it was first observed in the Western Church is very doubtful. Papebrochius asserts that the festival was not kept in Eastern earlier than in Western Christendom, but he has not proved this statement. The day occurs as the Feast of Barnabas, in the calendar of the Venerable Bede, so that unless this be one of the additions made after the author's death, we may conclude that the day was observed in the Western Church in the eighth century. It does not, however, occur in all the old service-books. In the *Martyrologium Romanum* it appears as the Festival of Barnabas only."—Rev. W. J. Josling in *Dict. of Christ. Antiq.*

was laid upon his breast. In the time of the Emperor Zeno, during a dispute between the patriarch of Antioch and the bishop of Cyprus, a vision appeared to the latter, directing him to end the dissension by disinterring the remains of St. Barnabas at a place indicated. This was done, and the copy of the Gospel was found, in proof that the sepulchre was authentic. Zeno at once decided in favour of the independence of the see of Cyprus, and ordered bishop Anthemius to build a magnificent church on the spot where the body was discovered, and to dedicate it to the saint. His legend further informs us that St. Barnabas was a man of commanding presence, grave, and dignified in deportment. It was probably his majestic mien, as well as his powerful eloquence, which won for him the appellation of "Jupiter" from the people of Lystra.¹

In art, he is always represented in accordance with the above description, and usually carries, as an attribute, the Gospel of St. Matthew. His other attributes are a stone, the instrument of his martyrdom, and a staff, as a missionary. The *Guide to Painting* does not give any directions regarding his portraiture, beyond that he is to be depicted with grey hair and a large beard.²

There appears to have been different versions of his martyrdom, for in an old German work (fifteenth century) he is represented as being burnt to death.³

There are six ancient churches dedicated to his honour in England.

BAROQUE. (*Fr.*) A term used in connexion with ornamental art, to denote a class of decorative designs in which extreme irregularity and incongruity obtain amongst the component parts. In such ornamentation the chief aim is to produce the superficial effect of great richness; and no restrictions, dictated either by truth or propriety, are recognised by its designers. The term has much the same signification as rococo. (See *Rococo*.)

BARRACK. A building or group of buildings constructed as a residence for a regiment of soldiers, infantry or cavalry. The word is more commonly used in the plural.

The following particulars are given in the Dictionary of the Architectural Publication Society:—"Such buildings, though previously common on the continent, were not introduced into England before the year 1720 (*COMMON SENSE Journal*, London, 1739, cv.), and few were erected until 1792, when barracks were ordered throughout Great Britain, which were built at a cost of about four million pounds before 1805; the same sum was spent upon similar buildings in the following quarter of a century.

"Barracks for a single infantry regiment generally contain a small infir-

¹ Acts xiv. 12.

² Barnabas: cheveux gris, grande barbe.—*Manuel D'iconographie Chrétienne*, p. 315.

³ *Der Heyligen Leben*—das Summerteyl Johannes Bamler zu Augspurg, 1477.

mary or hospital, with a deadhouse and surgeon's rooms; the men's guard-room with four cells and two black-holes; the officers' guard-room and its orderly-room, with pay-master's sitting-room and bed-room attached; the colonel's sitting and bed-rooms; the adjutant's office, with two sitting-rooms, a dressing-room, bed-room, servants' room, and kitchen; the officers' quarters and large mess-room, lavatory, and reading-room (some regiments have been allowed to add billiard and other rooms, coach-houses, stables, etc., at their own expense); the quartermaster's, the barrack-master's, and the barrack-sergeant's apartments and stores; two large armouries with bays for accoutrements, and a smith's shop with forge; two powder magazines; about thirteen sergeants' sitting-rooms, their general mess-room, and five bed-rooms; five drummers' sitting-rooms; general mess-room, band-room, yard, and practising shed, besides the day-rooms, dormitories, refectories (mess-rooms), two kitchens and larders, with all the necessary stores, outhouses, and other accommodations, including a canteen. For a cavalry regiment, stables, a riding-house, farrier's shop, and other such accessories are added."

BARRED. The term applied by old writers to a belt or girdle across which were fixed plates or ornaments in the precious metals. Chaucer, in the *Romaunt of the Rose*, thus speaks of the girdle of Richesse:—

" The barres were of gold full fine,
Upon a tissue of satin,
Full hevie, grete, and nothing light,
In everiche was a besaunt wight."

Spur-straps were also barred; they are mentioned in *Gawayn and the Green Knight*:—

" chasse spurs under
Of bryst golde upon silke bordes
Barred ful ryche."

It appears the girdles were both formed of and barred with silk. Chaucer, in his *Canterbury Tales*, describes the girdle of the carpenter's wife as being "barred all of silk." (See *Belt and Girdle*.)

BARREL VAULT. The term commonly used to designate a plain semicircular vault, covering a long apartment, the nave of a church, or a corridor. The term, however, is obviously incorrect, and in no sense expresses the form of the feature, which is in fact that of *half* of a barrel, understanding the word barrel to bear the ordinary signification of a hollow cylindrical body or tube. The term *barrel drain* is, on the contrary, correct, because it is strictly a cylindrical tube.

It is difficult to find a more simple and correct term for this form of covering than SEMI-CYLINDRICAL VAULT. The French, who are richer

and generally more correct in their architectural nomenclature than we are, call such vaults *voûtes en berceau*, from their resemblance to the old-fashioned covering of a child's cradle. From this we have probably derived our term *Cradle Vault*, one which, in our language, is neither more correct nor expressive than barrel vault.

BARROW OR TUMULUS. The terms used by archæologists to designate a mound of earth or other materials heaped over the remains of some distinguished personage. "The simplest idea that can be suggested to account for its origin is, that as the little heap of earth displaced by the interment of the body would become the earliest monument by which the survivors were reminded of departed friends; so the increase of this by artificial means into the form of the gigantic barrow would naturally suggest itself as the first mark of distinction to the honoured dead. To this simplest construction the term barrow should be exclusively reserved, while the tumulus is distinguished by its circular form."¹ We do not find that the distinction aimed at in the last sentence has been recognised by writers on archæology generally; for, whilst the term tumulus is almost exclusively used in speaking of the sepulchral mounds of the ancient Greeks, and the conical mounds formed by the Romans, adjoining their camps and stations, to serve as land-marks and watching-stations, it is used indifferently with the word barrow to designate the sepulchral mounds of the ancient inhabitants of this and other northern countries.

Speaking of the theories which have been established by the northern antiquaries with reference to the mode of sepulture adopted by the different primeval races which in successive waves have swept over the surface of Europe, Mr. James Talbot remarks:—² "They classify tumuli or barrows in the following order:—1. The earlier ones are circular, and generally surrounded by a circuit of stones. They contain stone chambers, in which the bodies are deposited, often burnt in sand or placed on stones. The objects found are generally of stone, rarely of bronze or gold, and never of silver or iron. 2. Heaps of stone over stone chests, not larger than is necessary to contain a few urns or burnt bones, or the sword of the deceased. These chests are also frequent in the barrows both of England and Scotland. In these tombs, arms, such as swords, daggers, celts, &c., of bronze, have been found in large quantities, accompanied by ornaments of bronze, gold, and even electrum, it is said, but never silver. Axes and daggers are also said to have been found, of copper, with an edge of iron, which points to a state of transition between this and the succeeding period. 3. Heaps of stones containing a wooden structure, sometimes in the form of chests, and frequently also in that of ships or boats. In these barrows, which belong to the latter period of heathendom, a quantity of

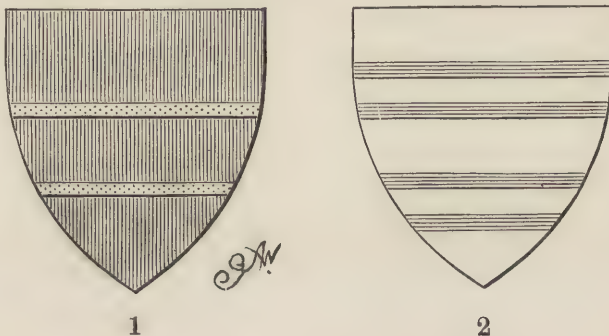
¹ Rev. J. Mauaghan, in *The Archæological Journal*, vol. xi., p. 11.

² *The Archæological Journal*, vol. vi., p. 106.

arms and weapons of iron are found, accompanied by trinkets and utensils of bronze, and gold or silver. The bodies were sometimes burned, but also frequently interred without cremation, sometimes seated on chairs with their horses by their sides."

Numerous barrows exist in various parts of Great Britain, and are unquestionably the most ancient monuments preserved to us. Their forms, which differ materially, have been classified into fourteen varieties by Sir Richard Colt Hoare, in the introduction to his valuable work, *Ancient Wiltshire*. The student of archæology who desires to fully acquaint himself with this subject should refer to that work, and also to Gough's *Sepulchral Monuments of Great Britain*; Stackhouse's *Illustrations of Tumuli and Ancient Barrows*; Fosbrook's *Encyclopædia of Antiquities*; and King's *Munimenta Antiqua*.⁸

BARRULET. In heraldry, the diminutive of the bar (See *Bar*), of which ordinary it is one-fourth in width, and accordingly one-twentieth of the field of the shield, as in Fig 1. (Example—*Gules, two barrulets*,

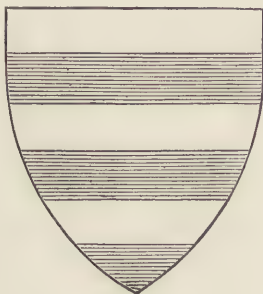


or.) In strict heraldry a single barrulet never appears on the shield. Barrulets are frequently arranged in pairs, as in the accompanying illustration, when they are designated **BARS GEMELS**, Fig. 2. (Example—*Argent, two bars gemels, azure*.)

BARRY OR BARRULY. In heraldry, the term applied to a shield when it is divided horizontally or bar-wise into an even number of parts, as in the following illustration. (Example—*Barry of six, argent and azure*.) The arms of De Grey. When the field is divided into an unequal number of parts the same tincture appears in chief and base, and, therefore, it becomes the tincture of the field; the pieces of the other tincture are accordingly described as so many bars. (See *Bar*.) The

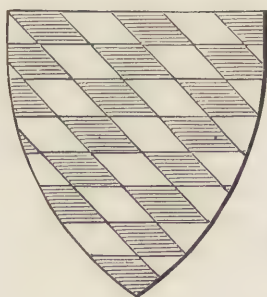
⁸ Further, reference may be made with advantage to valuable articles and notices in *The Archæological Journal*:—Vol. i., pp. 156, 247, 253, 262, 271, 279; iii., 155, 349; v., 279; vi., 27; vii., 34, 36, 188; viii., 341; ix., 226; x., 68, 176; xiii., 12; xiv., 124, 136.

term barruly is sometimes used when the field is divided into ten or a greater even number of parts. Some authorities have used the term



BARRULETTY for the shield so divided; but it is quite correct to describe the shield as barry of six, eight, or ten.

BARRY BENDY. In heraldry, the term applied to the field of the shield when it is divided into an even number of parts by lines drawn across it horizontally, or bar-wise, and also into an even number of parts by lines drawn diagonally, or bend-wise, the tinctures being counterchanged, as in the accompanying illustration, Fig. 1. (Example—*Barry bendy*,



1



2

argent and azure.) When the diagonal lines are drawn in the contrary direction to bend-wise, the term BARRY BENDY SINISTER is applied to the field: and when the diagonal lines are drawn in both directions, dividing the field into a series of triangles, as in Fig. 2, it is described as BARRY BENDY DEXTER AND SINISTER, or, according to some heralds, BARRY INDENTED, THE ONE IN THE OTHER. (Example—*Barry of six, argent and sable, indented, the one in the other*.)

BARRY PILY. In heraldry, the term used to describe the field of a shield divided into an even number of pieces by *piles* placed horizontally, or bar-wise, across it. (See *Pily*.)

BARTHOLOMEW, ST. Apostle and Martyr, and one of the Patron Saints of Fermo. Although the Scriptures clearly state that St. Bartholomew was one of the Twelve Apostles, they give no particulars relating to his life and acts. Such being the case, artists have had to resort to his legendary history for all materials and suggestions to guide them in portraiture and in the representation of scenes from his life and martyrdom. The name of Bartholomew, which simply means "the son of Tholmai," is very generally believed to have been assumed or given to him for some reason; and it is supposed that his true name was Nathanael, because St. John speaks of Nathanael without mentioning Bartholomew, whilst the other Evangelists who mention Bartholomew do not allude to Nathanael. It is very probable, therefore, that he was known by both names.* His legends differ as regards his birth, some stating him to have been the son of a poor husbandman, and others claiming for him high descent, as the son of a prince Ptolomeus.

After the Ascension of our Lord, St. Bartholomew set out on his missionary labours, carrying with him a copy of the Gospel of St. Matthew. With great zeal and perseverance he travelled to the extreme parts of northern and western India, preaching the Gospel, and converting many. Returning thence, he continued his teaching in northern Asia. He joined St. Philip at Hieropolis, in Phrygia, and preached against the idol-worship of the inhabitants with such important results that his life was in great danger. The magistrates bound him, and were about to kill him, when a conviction seized them that Divine Wrath would avenge his death. He was accordingly unbound and compelled to leave the city. He is believed to have travelled hence into Lycaonia, where, according to St. Chrysostom, he instructed and trained the people in the Faith and in Christian discipline. Of his subsequent labours, before he entered Albanopolis, in Greater Armenia, the place of his martyrdom, nothing is recorded. In Albanopolis he devoted all his energies to reclaim the inhabitants from their idolatries; but his teaching was stayed by Astyages, brother to the king Polymius, who condemned him to death. Welcoming the crown of martyrdom, the Apostle sought not to evade the sentence, but, cheerful to the end, he continued converting and comforting those

* "He is by some, with a great show of probability, identified with Nathanael, for the arguments as to which derived from scripture, see *Dict. Bibl.*, under *BARTHOLOMEW, NATHANAEL*. It may be further remarked in favour of the identification that in such a matter Eastern tradition is more to the point than Western (considering, that is, the scene of this Apostle's labours and martyrdom), and that the former uniformly identifies Nathanael with Bartholomew. . . . Moreover in martyrologies and calendars, both of Eastern and Western Churches, the name of Bartholomew is of constant occurrence, while that of Nathanael is ordinarily absent, which would be strange on the hypothesis of a difference between the two. It must be allowed, however, that the Egyptian and Ethiopian Churches seem to identify Nathanael with Simon the Canaanite, for in their Menologies and Calendars, edited by Job Ludolf (Frankfort, 1691), there is no mention of Simon the Canaanite, but on July 10 is 'Nathanael the Canaanite' (p. 33). In Greek Menologies also, under the days April 22, May 10 is a similar identification, as also in the Russian Calendar for the latter day."—Rev. R. Sinker, *M.A.*, in *Dict. of Christ. Antiq.*

who came to him. On the manner of his death there is a difference of opinion; some say that he was crucified with his head downwards; whilst others believe him to have been more cruelly tortured by being flayed alive. It is probable that crucifixion may have followed excoriation. There is still another version of his martyrdom, namely, that he was beheaded after having been flayed alive.

Tradition informs us that the relics of St. Bartholomew were given by the Byzantine emperor, Anastasius I., about the year 508, to the city of Daras, in Mesopotamia, founded by him. Between this time and the sixth century they appear to have been translated to the Island of Lipari, and in 809 they were carried thence to Beneventum, and lastly, in 983, to Rome. They are now preserved, according to popular belief, in the porphyry vessel under the high altar of the church of St. Bartolommeo all' Isola, in the island of the Tiber.

St. Bartholomew is usually described as a man of dignified appearance, with a face on which resolution and kindness are both expressed; his hair is black, and his beard is bushy and grizzled; but in the *Guide to Painting* he is described as young, with a short beard.* His attributes are a knife, the instrument of his martyrdom, a book, the copy of St. Matthew's Gospel, from which he taught his Indian converts, and a human skin, sometimes with the face attached, in allusion to his cruel torture. The usual form of the knife is shown in the accompanying cut. In Michael Angelo's Last Judgment, St. Bartholomew is represented holding forth his skin in one hand and the instrument of his martyrdom in the other. In the representations of the Saint, in English mediæval art, he is almost universally shown bearing the knife and sometimes the book also. In Callot's *Images* he is depicted bound to a wide-spreading cross. With the exception of his martyrdom, very few historical subjects in which he is the chief actor appear to have been executed; the best known is the picture in the cathedral of Notre Dame, at Paris, representing him healing an Armenian princess.



The festival of St. Bartholomew has always been highly revered in this country. About one hundred and fifty ancient churches are dedicated in his honour in England. He was the Patron Saint of the great St. Guthlac, and accordingly Croyland Abbey was dedicated in the joint names of St. Bartholomew and St. Guthlac.

The proposition of the Apostles' Creed apportioned to him in middle age theology and art, is the sixth.—"ASCENDIT AD COELOS, SEDET AD DEXTERAM DEI PATRIS OMNIPOTENTIS." (See *Apostles*.)

In the Old English (Sarum use), the Roman, Scottish, French, Spanish, and German Calendars, his day is August 24. In the Greek Calendar we

* "Saint Barthélemi jeune, barbe naissante."—*Man. d'Icon. Chrét.*

find on June 11, SS. Bartholomew and Barnabas, whilst on August 25, the Translation of St. Bartholomew's relics. The year of his martyrdom does not appear to have been fixed.

BARTIZAN OR BARTIZENE. A small overhanging construction, usually in the shape of a corbelled out turret, placed at the angles of the upper part of a tower; or a projected portion of the battlements of a fortress, for the reception of a sentinel, who, from such an elevated and advanced position, could watch all that passed in the neighbourhood of the wall. The bartizan was also pierced with loop holes, and in some cases furnished with machicolations, thus forming an important point of defence. The term is now almost exclusively confined, by English architects, to the corbelled out angle turrets so commonly met with in the old Baronial architecture of Scotland, and all modern features of a similar character. Under the term *Echauguette*, M. Viollet-le-Duc gives a series of illustrations of the several varieties of bartizans met with in the middle age structures of France, to which the architectural student may refer for much interesting information.

BARWISE. The term employed in heraldry to indicate that charges are placed on the field of a shield after the manner of bars, that is, horizontally across the field in two or more rows. (See *Bar*.)

BARYTIC WHITE. A pigment prepared from sulphate of barytes, also known in the arts as **CONSTANT WHITE** or **PERMANENT WHITE**. Field says this pigment, "when well prepared and free from acid, is one of our best whites for water-painting, being of superior body in water, but destitute of this quality in oil. As it is of a poisonous nature, it must be kept from the mouth; in other respects it resembles the true pearl white. Both these pigments should be employed with as little gum as possible, as it destroys their body, opacity, or whiteness; and solution of gum ammoniac answers best." Notwithstanding the assurances of Field, the absolute permanence of barytic white is a matter of question. It is usually allowed by chemists to be inferior in point of durability to both zinc white and pearl white; the latter, indeed, is absolutely permanent.

BASALT. An intensely hard and compact natural material,* which was frequently used by the best sculptors of Egypt and Greece. The

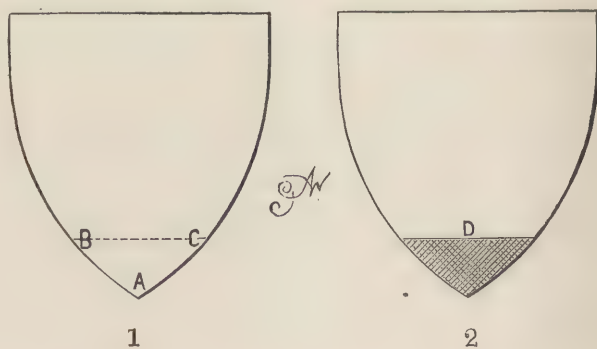
* "A variety of common trap-rock, composed of felspar and augite, with some iron, lime, manganese, soda, and magnesia. It is of different colours, according to the prevalence of these ingredients: thus it is found black with small shining black spots; black with large white crystals in the shape of pomegranates; black with red granitic bands; blackish grey with small pomegranate-shaped crystals and little black spots; blackish grey with small white veins and scales; *flowery black*, as it is called, marbled with white and irregularly wavy; bluish grey with a glimmering lustre; greyish black with small white points, which is called *oriental* and *occidental* basalt, according to its quality, the occidental being the softer; greyish black with very small grains of white quartz and spots of iron ochre; greyish black inter-

black and green varieties of the rock were those selected for sculpture; and many works executed in them are still in existence. The best known examples of Egyptian origin are probably the two magnificent lions, in black basalt, which flank the central stairs to the piazza del Campidoglio, the large sphinx in the Borghese villa, and the two lesser sphinxes—one in green and the other in greyish black oriental basalt—preserved in the park of the villa, all at Rome. Fine examples of sculpture in this most stubborn material are to be seen in the British Museum. In the Uffizi, at Florence, is a beautiful torso, in green basalt, of Greek workmanship. It is that of a naked youth, sculptured with the greatest delicacy and truthfulness to nature. This must have been a most wonderful statue when entire. Basalt has never been used in modern sculpture.

BASE. In art nomenclature, this word signifies, literally, the lowest part of anything; the portion of an object which is in direct contact with the ground or any intermediate support; and the broad or spreading part of anything, as the base of a cone or pyramid.

In architecture, the term base, when used without any qualification, is invariably understood to signify the lower member of a column or pillar upon which the shaft rests. (See *Base of a Column or Pillar*.)

In heraldry, the term base denotes the lower part of the field of a shield, A, B, C, Fig. 1. The point A is termed the *Middle base point*;



B the *Dexter base point*; and C the *Sinister base point*. The lower portion of the shield, D, Fig. 2, one-fifth of the depth of the field, is called a *Base*, a *Point*, or a *Plain point*. It is an honourable bearing except when tinctured *sanguine*, when it is an abatement for one who has lied to his king.

spersed with black siderite, partly amorphous and partly crystalized, and with greyish white felspar, which gives the general tone of colour; greenish black with grains of white quartz, and transparent felspar; greenish black with crystalized black siderite and small square prisms of yellowish green olivine (the last-named crystals decompose); green with small white crystals, which is very rare; and reddish brown, the colour being produced by the decomposition of the iron."—*Dict. of Arch.*, Arch. Pub. Soc., Lond.

BASE COURT. The term commonly used in old times for the secondary or inferior court-yard of mansions or other large buildings. It sometimes formed the first or outer court, placed in advance of the principal quadrangle, "court of lodgings," or the *cour d'honneur* of the French architects; at other times it was placed behind the great hall, which divided it from the principal quadrangle. Round the base court (Fr. *basse cour*) were usually arranged the servants' lodgings and other offices. It was also written in old English documents *BASSE-COURTE*, as may be seen by the following extract:—

"Most part of the basse-courte of the Castelle of Wreschil is al of tymbre."

—Leland, *Itin.*, vol. i., p. 59.

The term is little used at the present time; and when it appears it is not always with its proper signification. It should in no way be diverted from its true application, or be used either for a kitchen-yard or stable-yard, as it sometimes is.

BASELARD OR BASILARD. A long dagger, in all essentials resembling the *anelace* (See *Anelace*) worn by civilians during the fourteenth and fifteenth centuries, but chiefly during the latter century. In a satirical song written in the time of Henry V., the following lines occur:—

"There is no man worth a leke,
Be he sturdy, be he meke,
But he bere a baselard." *

It is proved from several old authors that the baselard was very frequently worn by ecclesiastics. The baselard was accepted as a mark of gentility; and appears to have been frequently richly ornamented on the handle and sheath. Ivory, the precious metals, and precious stones were commonly used for its decoration.

BASE LINE OR GROUND LINE. The term used in Perspective, to indicate the line where the vertical plane, or plane of delineation, intersects the ground plane, or that level plane on which the objects forming the picture are assumed to stand. It is, accordingly, below and parallel to the *horizontal line*, which is level with the *point of sight* or the eye of the observer.

"When a painter has formed a scene in his mind, and supposed, as is customary, that the principal figures of this scene lie close, or almost close, to the back of his canvas, he is, in the next place, to fix on some point on this side of the canvas from which he would choose his piece should be seen. But in choosing this point, which is called the point of sight, regard should be had to its situation to the right or left of the middle of

* MS. Sloane. No. 2593.

the canvas; but, above all things, to its distance and height with respect to the lower edge of the canvas; which edge is called the *base-line*, and is parallel with the horizontal line which passes through the eye. For by assuming the point of sight, and consequently the horizontal line, too low, the planes upon which the figures stand will appear a great deal too shallow; as by assuming it too high, they will appear too steep, so as to render the piece far less light and airy than it ought to be."*

BASEMENT. In architecture, the term applied to the lower part of the walls or the lower story of a classic building, when either is designed in the form of a pedestal, having a plinth, die, and cornice. It invariably assumes a subordinate character in the general design, supporting the principal order and all decorative features associated therewith. A perfect specimen is presented in the lower portion of the Banqueting House, Whitehall.

BASE MOULDINGS. This term, in its strict and ordinary signification, is applied to the mouldings which ornament the base or lower part of any architectural feature, such as a column or pillar, pedestal, attic, or a wall. It is, however, generally confined to the mouldings on the bases of walls, and more especially to those which obtain in the architectural works of the middle ages. (See *Base of a Wall*.)

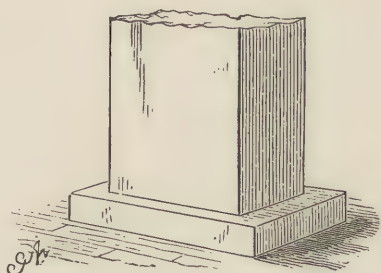
BASE OF A COLUMN OR PILLAR. The lower part of a column or pillar which is larger in circumference than the shaft above, commonly spreading in form towards its bottom bed, and usually enriched with mouldings, to which is sometimes added sculptured ornamentation. On the base the shaft immediately rests; for, save in very rare instances and in works of small dimensions, the base and shaft are in separate stones; in classic architecture they are invariably so.

It is not a difficult matter to divine the origin of the base, which unquestionably appeared first of all in the timber buildings of remote antiquity. Posts, formed from the trunks of trees, and employed as the chief supports of huts, would invariably be driven into or sunk some distance in the ground, so as to render the structure secure against a storm; but internal props, or those which stood outside, forming a covered porch or some such feature, required in lands where a free circulation of air and protection from the burning sun overhead were absolute necessities of life, would not be driven into the ground, but would be placed upon other pieces of wood or slabs of stone laid flatways on the soil. These horizontal pieces or slabs would be of sufficient superficial dimensions to prevent the pressure of the props causing them to make any impression on the earth beneath, and of sufficient thickness to bear the pressure of the props without breaking. In this simple and obvious contrivance we have

* Elmes.—*Dict. of the Fine Arts*.

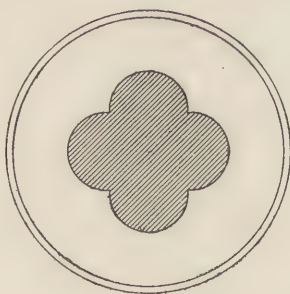
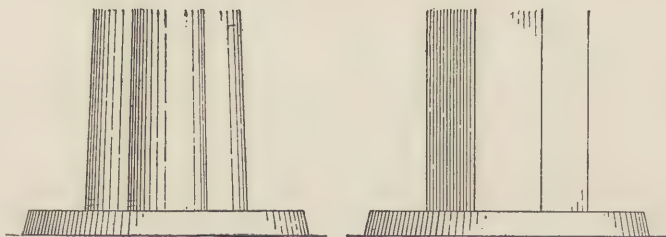
the origin and true use of the base, which in both classic and mediæval architecture became an ornamental feature of the highest value.

In the earliest and simplest known form of stone column—that of a plain square monolith, which appears in certain Egyptian works of the age

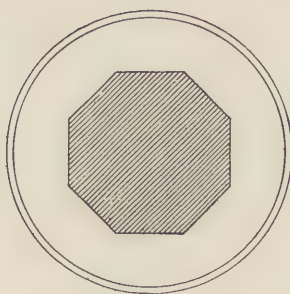


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of the pyramids (about 2100 B.C.)—the rudimentary base appears; as in Fig. 1, from a small temple at Gizeh. In the tombs of Beni-Hassan, columns of eight and sixteen sides, and of a quatrefoil section, are found, all with the rudimentary base, wide-spreading, circular in plan, and of little



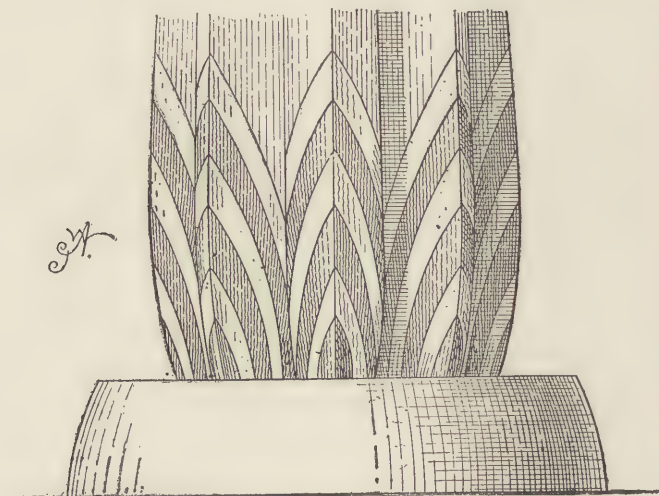
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thickness, as in Figs. 2 and 3. The Egyptian architects, even in the finest period, do not appear to have got much beyond this early type; for in the richest orders of their columns the plain circular base appears, commonly of the form shown in Fig. 4, from the temple of Thothmes III. (1495–1455 B.C.), at Karnac. It is not to be supposed for a moment that

such a base indicates poverty of invention, for architects who could design so great a variety of beautiful capitals as their temples present, could, had they desired, have invented quite as many varieties of bases. It is indeed difficult to imagine a more appropriate form of base for the



4

extremely dignified column placed upon it. A careful study of the feature only tends to prove the unerring judgment and self-denial of the architects of Egypt; the idea of perfect rest and stability conveyed by the unbroken horizontality of its upper surface, combined with just enough projection,



5

and the gentle curve of its edge, which appears to be the only one possible, æsthetically speaking, when we take into consideration the outward curve of the lower part of the shaft, clearly indicate to our minds that, however

many other forms may have suggested themselves, all were thrown aside as unworthy of adoption save this. As regards our remark with reference to self-denial, it is a recognised characteristic of a great artist that he knows where to stay his hand; and that, matchless though he may be as an ornamentist, he denies himself the luxury of indulgence and the pride of display, so that his work may not lose dignity, or its parts their true expression. A variation of this base is found in the peristyle of the palace-temple of Rameses III. (1235-1205 B.C.), at Medeenet Haboo. It is similar in the horizontality of its upper surface and in its general proportions to that of the earlier temple of Thothmes III., but differs in the contour of its edge, as will be seen on reference to the accompanying illustration, Fig. 5. This base seems to be the parent of the torus, which became so important a feature in the bases introduced by the Greek architects. It cannot be said to be either so refined or vigorous as the earlier type, yet it perfectly accords in feeling with the curve of the lower part of the shaft. It also presents the unusual feature of a belt of hieroglyphics.

In the hypostyle hall, at Karnac, the columns have bases, or what may be correctly designated simple plinths of slight projection, as shown in

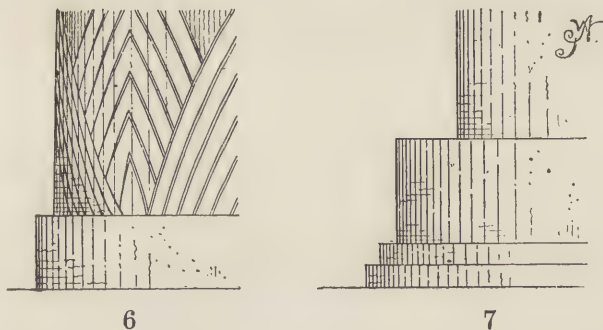


Fig. 6. The great size of the columns, and their closeness to one another, doubtless dictated the adoption of such a plinth. In the latest period of Egyptian architecture, represented by the temple at Denderah, erected in the reigns of the last Ptolemies, we find the exaggerated form of the plinth shown in Fig. 7.

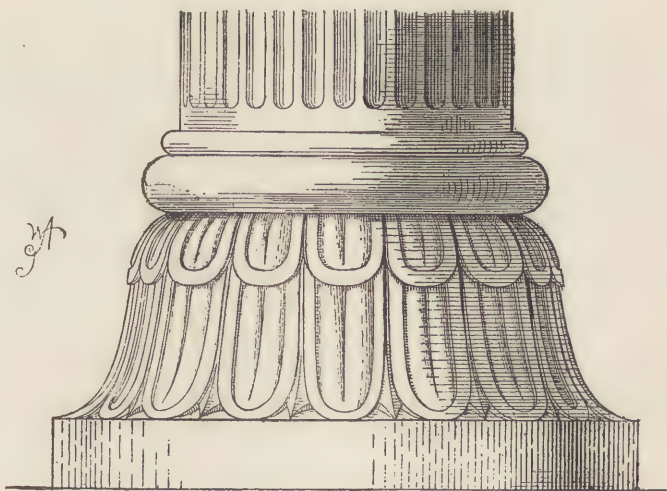
The remains of Assyrian architecture have not yet yielded up to the explorer even a fragment of a base of a column; and such a fact is a very strong proof that columns were not used by the Assyrian architects, for even had the shafts of the columns been of wood, it is hardly probable that they would have been placed directly resting on a floor or on the top of brick walls, without the intervention of a spreading base or block of some hard material, and more especially as the architecture of Egypt taught the use of the base. We must not, however, overlook the fact that in one of the bas-reliefs found at Khorsabad, columns are represented with bases formed of two members—a large torus with a smaller one placed immediately upon it, and on which the shaft rests. (See *Assyrian Architecture*, Fig. 5.)

So few works of Pelasgic architecture have been handed down to our time, that it is impossible to form any correct idea of its extent or decorative features; fortunately for our present purpose, however, one base has



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been preserved, and that is replete with interest, pointing as it does to an origin essentially Asiatic, and one entirely unknown to us. Egyptian architecture certainly furnished no prototype; and, from what has just



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been said regarding Assyrian remains, it appears unlikely that a prototype existed in the great palaces on the banks of the Tigris. This base was found, much injured, in the passage leading to the so-called treasury of

Atreus, at Mycenæ. A restoration, with portion of the shaft of the column, is given in Fig. 8.

Our next step, in chronological order, brings us in the presence of a style of base, the infancy of which, like that just alluded to, must in our opinion be looked for in some early Eastern architecture, probably Indian. We allude to the style of base found in the ruins of the palaces of Darius and Xerxes, on the great terraced platform at Persepolis. In Fig. 9 is given a representation of one of the finest bases, which, however, presents the leading characteristics of all the others. (See *Persian Architecture*.) The lower portion of the base is bell-shaped, and sculptured with bold overlapping leaves, which, properly, fall downwards. Above this is a large torus, with an astragal or lesser torus between it and the shaft. It will be observed that this upper portion is almost identical with the base represented on the bas-relief found at Khorsabad. In our example the shaft rises abruptly from the astragal, but in other examples on the same platform the shafts have the apophyge and fillet.

In Grecian architecture we find the base in its most refined and perfect development, but we also observe that it was by no means a feature universally adopted. In the noblest and manliest of all the orders—the Doric—the Greek architects omitted the base altogether, allowing the shaft

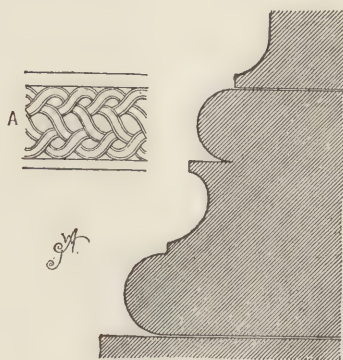


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of the column to rise abruptly from the level platform or pavement upon which it was placed. We find it thus in the most beautiful and perfect building known to have been constructed by the hand of man, the Parthenon, at Athens.* This building is surrounded with a peristyle of forty-six

* "The Parthenon, or great Temple of Minerva, stood upon the highest platform of the Acropolis, which was so far elevated above its western entrance, that the pavement of the peristyle of the Parthenon was upon the same level as the capitals of the columns of the eastern portico of the Propylæa. The Parthenon was constructed entirely of white marble from Mount Pentelieum. It consisted of a cell, surrounded with a peristyle, which had eight Doric columns in the fronts, and seventeen in the sides. These forty-six columns were six feet two inches in diameter at the base, and thirty-four feet in height, standing upon a pavement,

Doric columns, six feet two inches in diameter and about thirty-four feet in height, which stand directly upon the pavement without the intervention of any description of base or plinth. Nothing can well surpass the simple dignity of the treatment which here obtains, and it is quite impossible to divine a base which would not destroy it. The only one which would be at all admissible is the simple plinth, such as that applied to the columns of the hypostyle hall, at Karnac; but even that would be destructive to the marvellous simplicity and refined severity of the Doric order. We must not, however, omit to mention the single known exception to this rule, presented by the attached columns of the great Doric temple, at Agrigentum, commenced by Theron, 480 B.C., but never completed. The gigantic columns, which only project from the wall about half their diameter, are placed upon a high base, the members of which are carried along the walls. The base is evidently Asiatic in character, and doubtless



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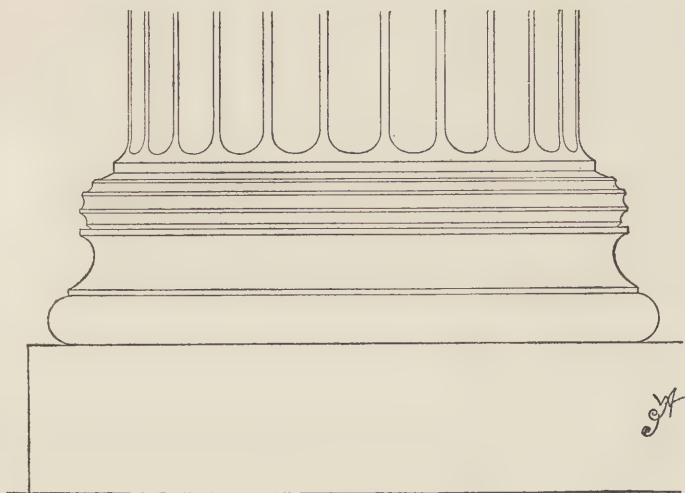
came from the same source as that from which the early Greek architects derived the suggestions for their Ionic bases. The order at Agrigentum does not produce a happy effect; and the Greeks did well to leave it unique.

Turning now to the orders in which the Greek architects employed the base, we may commence with the Corinthian of the Choragic monument of Lysicrates, for in it we find at once the feature in perhaps its most beautiful development and most simple form. On reference to Fig. 10, which gives the contour of this base, it will be observed that it consists

to which there was an ascent of three steps. The total height of the temple above its platform was about sixty-five feet. Within the peristyle, at either end, there was an interior range of six columns, of five feet and a half in diameter, standing before the end of the cell, and forming a vestibule to its door; there was an ascent of two steps into these vestibules from the peristyle. The cell, which was sixty-two feet and a half broad within, was divided into two unequal chambers, of which the western was forty-three feet ten inches long, and the eastern ninety-eight feet seven inches. The ceiling of the former was supported by four columns, of about four feet in diameter, and that of the latter by sixteen columns, of about three feet. It is not known of what order were the interior columns of either chamber."—Colonel Leake, *Topography of Athens*.

of a lower torus, a scotia with narrow fillets, and an upper member, which, unlike the generality of upper tori, is profiled as a portion of an ellipse. The scotia is bold, and is also part of an ellipse in profile; it combines in the most perfect manner with the curves of the other members, forming an outline in which power and refinement are clearly stamped.

In the Ionic order, bases of more complex form are met with; the most beautiful, however, are those which resemble, in the number and disposition of their members, the base just described. Of these we have selected two examples for illustration. Fig. 11 is from the temple of Minerva Polias, and Fig. 12 from the temple of Erechtheus, at Athens. In the



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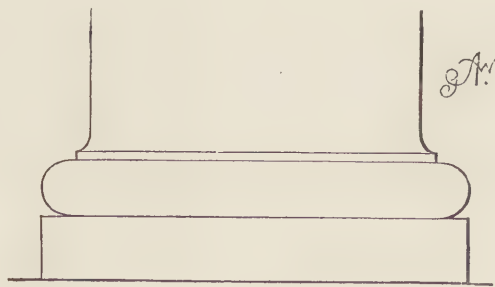
former example both the tori are semicircular, the upper one being enriched with the interlaced ornament indicated at A: in the latter the upper member is horizontally fluted, with the view of producing a crisp effect of light and shade, at right angles to that produced by the fluting of the shaft. In the bases of the attendant pilasters, both the upper and lower members are also cut up horizontally, the former being fluted and the latter reeded. It was a usual practice of the Greek architects to give to pilasters of the Ionic order bases of a different design to those of the adjoining columns. In the Ionic columns of the temple of Apollo Didymæus, near Miletus, the base is of a form differing entirely from that last described; it consists of a large semicircular torus, placed immediately under the shaft, and supported on three members, each formed of two astragals with small fillets, and divided by two scotiæ of elliptical contour. The diameter of the base at the deepest part of the lower scotia is the same as that of the bottom of the shaft, immediately above the apophyge. The Ionic columns of the temple of Minerva Polias, at Priene, have bases designed in similar style, the chief difference being that the torus is of elliptical

contour, with four deep horizontal flutings in its under half. For illustrations of these remarkable and interesting bases, see article *Ionic Order*.

There is no doubt that the Ionic is not only the earliest of the Greek orders, but that it is of Asiatic origin. What its direct source was, or at what period it was first adopted in Greece, are not known. In the forms we are conversant with, it is essentially Greek in feeling and refinement; and it was so in the earliest example of the order of which there is any knowledge, that of the temple on the Ilissus, at Athens. This building, now unfortunately destroyed, is believed to have been erected shortly before the commencement of the great Doric temple at Agrigentum, or about 485 B.C. The original Asiatic type, whatever it may have been, unquestionably underwent many modifications in the hands of the early Greek architects before it assumed the beautiful proportions and treatment of the order of the temple above alluded to.

Before leaving Grecian architecture, we have to allude to the description of base called the *Attic*. The only example known to us which obtains in Greek work is that of the order in the interior of the Propylæa, at Athens; but the bases from the Choragic monument and the temple of Minerva Polias, Figs. 10 and 11, contain all the members of the attic base, although their relative proportions and positions are slightly different. The attic base was a favourite with Roman architects, and appears in many of their works. As we have treated this base at length in our article *Attic Base*, it is unnecessary to describe it here.

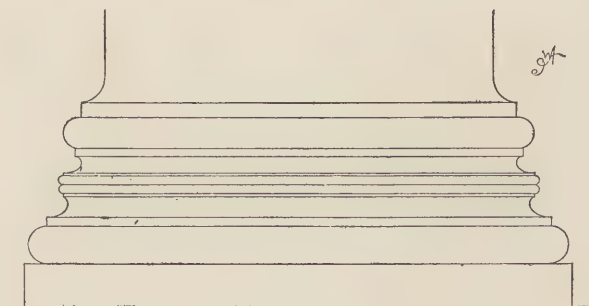
The simplest form of base met with in Roman architecture is that commonly known as the *Tuscan*. It consists of a plinth and bold torus



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of semicircular profile, upon which the shaft, with its usual apophyge and fillet, immediately rests. Fig. 13 is from the order of the third tier of the Colosseum, at Rome; in this instance it is applied to a plain variety of Corinthian. Both the column of Trajan and the Antonine column, at Rome, have Tuscan bases, in which the torus appears sculptured as a wreath of leaves. The base which seems to have been the most frequently adopted by the Roman architects is that given in Fig. 14, from the portico of the Pantheon; and, as its form presents a happy union of repose and richness, it is not to be wondered at that it should become a

favourite. It is also found in the Corinthian orders of the temple of Jupiter Tonans, and the so-called temple of Jupiter Stator, at Rome, and the arch of Trajan, at Ancona. In the Jupiter Stator example, a slight addition is made by the introduction of an astragal between the upper torus

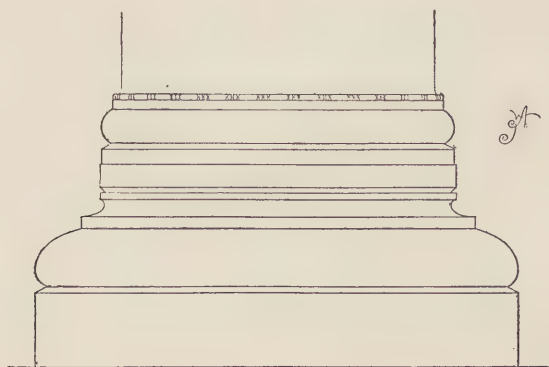


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and the fillet of the apophyge. In the unique Ionic order of the temple of Concord, at Rome, a very similar base is used, the chief difference being that a single plain fillet separates the upper and lower scotiæ, instead of double astragals and narrow fillets as shown in Fig. 14.

For further particulars relating to the different forms of bases introduced by the Greek and Roman architects in their orders, we must refer our readers to the several articles on the *Orders*. In a necessarily brief article like the present it is only possible for us to touch on the more prominent changes the feature has undergone in successive periods, and in the chief styles of architecture.

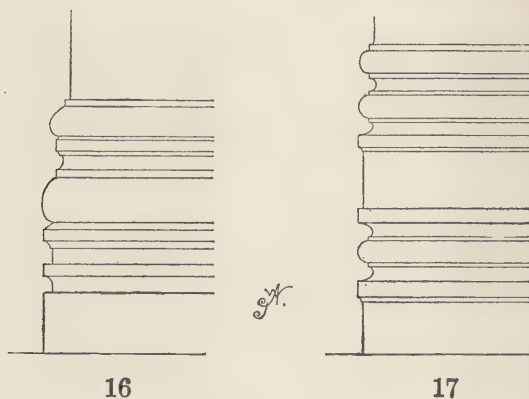
We now enter upon Christian architecture, and first in order comes



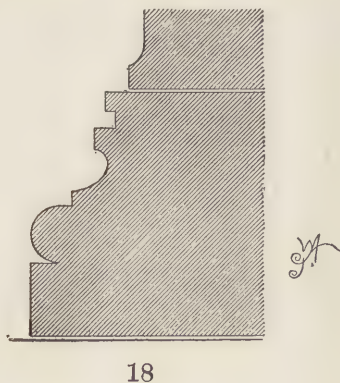
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the Byzantine; for until the time of Justinian the details of Roman architecture underwent but little change, and such was especially the case

with the feature under consideration. In Justinian's great work, the church of St. Sophia, at Constantinople, we find what may be justly designated the Byzantine base *par excellence*, containing as it does all the members which characterise the bases of the style. Reference to Fig. 15 will show that, although founded on classic forms, a decided



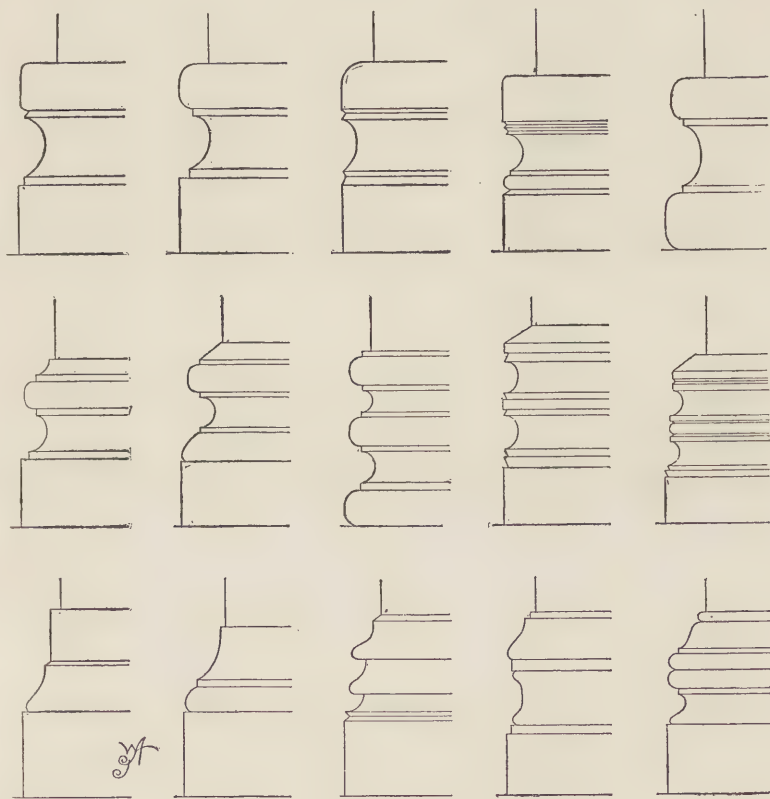
modification in the arrangement of parts and introduction of new members have taken place. In the bases of certain pilasters in the same building, Figs. 16 and 17, a still greater freedom of treatment is to be observed. The prevalence of flat or square members in Byzantine bases must not be overlooked; for such members, sometimes in the shape of projecting fillets and at others in the form of broad plain bands or belts, give a distinguishing character to them. In the base, Fig. 18, from the



cathedral of St. Sophia, at Thessalonica, a favourite mode of introducing square members as prominent parts of the design is well illustrated. The date of the cathedral is not known, but it bears every evidence of having been erected about the same time or very shortly after St. Sophia, at Constantinople.

Leaving the East, and returning to Rome, with the view of tracing the

influence of its Pagan architecture westward and northward, we find, as might be expected, that in all the offshoots, commonly designated by the general term Romanesque, there is a reluctance to depart from its more prominent details. This is very noticeable with regard to the base. The attic form—a superior and inferior torus separated by a scotia and two narrow fillets—appears everywhere and in all dates, and undergoes very little modification until the eleventh century. We are of course speaking in a general way; for there are numerous instances, especially in France and England, in which bases of much simpler forms are met with; some closely following the Tuscan and others consisting of a single sloping, curved, or hollow member of small dimensions. The Tuscan



base, in its antique form, is to be seen in the attached shafts of the nave piers of the church of Saint-Germain des Prés, at Paris. In early Romanesque work, bases in the form of inverted cushion capitals are to be found, as in the Norman doorway of Haddiscoe church, Norfolk; and a similar base is found in France at as early a date as the fifth century, in the church of Saint-Généroux (Deux-Sèvres); and as late as the twelfth century in the churches of Ebreuil and Cusset (Allier). As we approach

the twelfth century, we find the contours of bases to vary considerably, and in certain cases many different forms are introduced in the same work. In the part of the crypt of Rochester cathedral built by Gundulph, there are four varieties; and in the crypt of Worcester cathedral there are six forms used. But these works are outshone by the porch of the abbey church of Saint-Benoit-sur-Loire (Loiret), in which there are no less than fifteen different bases introduced. As this remarkable collection appears to present all the more favourite forms used prior to the introduction of the true Gothic base, and also to show the greatest departure from the attic and Tuscan types, we give it complete in Fig. 19. It is necessary to remark, in connexion with these bases, that what appear to be plinths, and would naturally be presumed to be square in plan, like the generality of early examples, are circular, and may be said to strictly belong to the bases. In most cases these stand on square plinths, which are not shown in our illustration. Throughout the entire range of Romanesque architecture the square plinth was retained as a favourite feature, the circular base resting directly on it, as in classic examples. In addition to this a sub-plinth was frequently added, the upper edge of which was commonly splayed or moulded. In large grouped or compound pillars the plinth frequently assumed a polygonal form; and in massive circular pillars, where the unoccupied angles of a square plinth would be objectionably large, a circular or octangular plinth was adopted.

In treating of the base as found in the several periods of mediæval architecture, at home and abroad, it is only possible, in this article, to draw attention to the chief modifications in form which it underwent; it is impossible, and indeed unnecessary, to allude to the many exceptional forms which were introduced through individual efforts and in separate localities, but which do not appear to have affected the general tide of development.

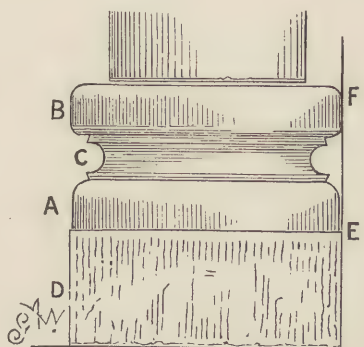
Before proceeding with our own remarks on the base, as met with in the buildings of the twelfth century, we cannot do better than quote, by way of introduction, the words of M. Viollet-le-Duc, accompanying them with reproductions of the illustrations alluded to.

“ Dans les provinces où le calcaire dur est commun, la taille de la pierre atteint, vers le commencement du xii^e siècle, une rare perfection. Cluny était le centre de contrées abondantes en pierre dure, et les ouvriers attachés à ses établissements mirent bientôt le plus grand soin à profiler les bases des édifices dont la construction leur était confiée. Ce membre de l'architecture, voisin de l'œil, à la portée de la main, fut un de ceux qu'ils traitèrent avec le plus d'amour. Il est facile de voir dans la taille des profils des bases l'application d'une méthode régulière; on procède par épannelages successifs pour arriver du cube à la forme circulaire moulurée.

“ Comme principe de la méthode appliquée au xii^e siècle, nous donnons une des bases si fréquentes dans les édifices du centre de la France et du Charolais (20)* Les deux disques A et B sont, comme la figure l'indique, exactement inscrits dans le plan carré du socle D. A partir du point E, le tailleur de pierre a commencé par

* From the church of Ebreuil (Allier).

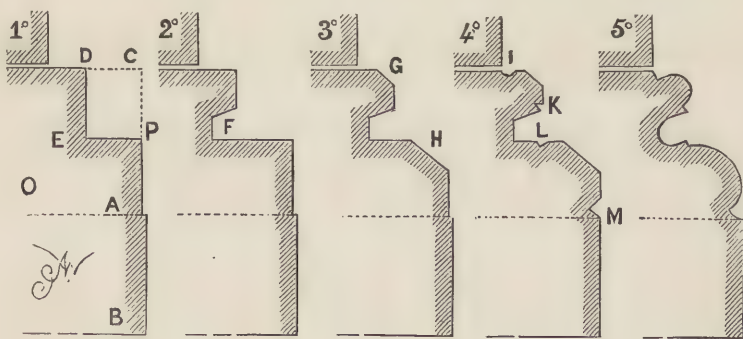
dégager un cylindre E F, puis il a évidé la scotie C et ses deux listels, se contenant d'adoucir les bords des deux disques A B, sans chercher à donner autrement de galbe à son profil par la retraite du second tore B ou par des tailles arrondies en boudins. Ce profil est lourd toutefois, et ne peut convenir qu'à des bases appartenant



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à des colonnes d'un faible diamètre; mais ce système de taille est appliqué pendant le cours du ^{xii}e siècle et reste toujours apparent; il commande la coupe du profil.

“ Soit (21) un morceau de pierre O destiné à une base : 1° laissant la hauteur A B pour la plinthe, on dégage un premier cylindre A C, comme dans la fig. 20, puis un second cylindre E D; on obtient l'évidement D E P. 2° On évide la scotie F. 3° On abat les deux arêtes G H. 4° On cisèle les filets I K L M. 5° On arrondit le premier tore, la scotie et le second tore. Quelquefois même, ainsi que nous le verrons tout à l'heure, la base reste taillée conformément au quatrième épannelage en tout ou partie.

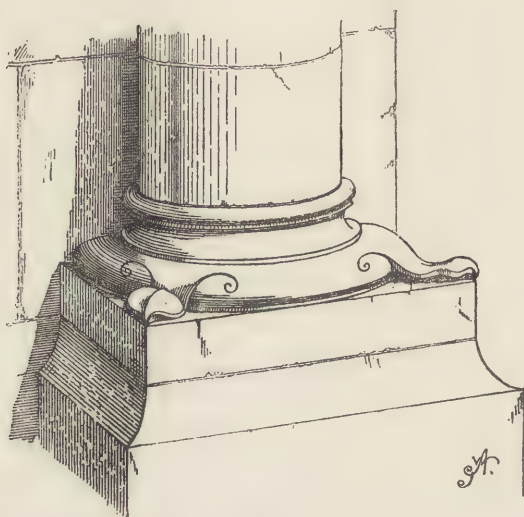


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Le profil des bases du ^{xiii}e siècle conserve, grâce à cet épannelage simple dont on sent toujours le principe, quelque chose de ferme qui convient parfaitement à ce membre solide de l'architecture et qui contraste, il faut l'avouer, avec la mollesse et la forme indécise de la plupart des profils des bases romaines. Le tore inférieur, au lieu d'être coupé suivant un demi-cercle et de laisser entre lui et la plinthe une surface horizontale qui semble toujours prête à se briser sous la charge, s'appuie et semble comprimé sur cette plinthe. Mais les architectes du ^{xiii}e siècle vont plus loin: observant que, malgré son empiétement, le tore inférieur de la base laisse les quatre angles de la plinthe carrée vides, que ces angles peu épais s'épaissent facilement pour peu que la base subisse un tassement; les architectes, disons-nous, renforcent ces angles par un nerf,

un petit contre-fort diagonal qui, partant du tore inférieur, maintient cet angle saillant. Cet appendice, que nous nommons *griffe* aujourd'hui, devient un motif de décoration, et donne à la base du xii^e siècle un caractère qui la distingue et la sépare complètement de la base romaine."

The bases met with in French architecture of the twelfth century clearly bear the tradition of classic examples in the number and arrangement of their members, although the proportions and form of the members are widely different. Besides this, they separate themselves very decidedly from the classic bases by the almost universal adoption of the square plinth; and by the introduction of the *griffes* or angle ornaments, which connect the circular base with the corners of the plinth, in the most artistic



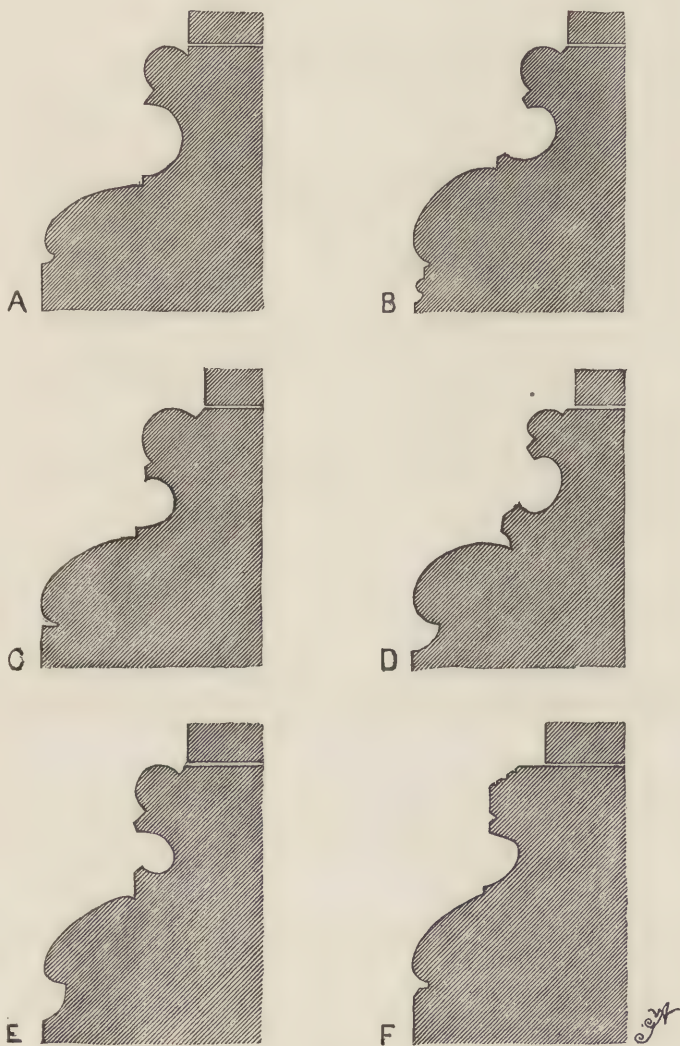
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manner, as in Fig. 22, from the choir of the church of Montréal (Yonne). For further illustrations see articles *Angle Leaf* and *Griffe*.

In Fig. 23 are given examples of the most characteristic and fully developed forms of French bases of the twelfth century, from which it will be observed that equivalents for the members of the attic base—the superior and the inferior tori, the scotia, and the two fillets—are in all cases introduced. A is from the church of Montréal, being the contour of the base given in Fig. 22; B is from the choir of the cathedral of Notre Dame, Paris; C from the choir of the cathedral of Sens; D from the choir of the abbey church of Vézelay; E from the church of Montréal; and F is from the collegiate church of Poissy (Seine-et-Oise). It will be observed from these examples that the upper member or torus assumes several forms, but that the lower torus remains throughout of one type, altering only in its proportions of height and projection; the fillets also vary in treatment.

The peculiarly refined and Greek-like contour of the lower tori of these

bases cannot escape the eye of the student of architecture; indeed, the lower torus sometimes bears a strong resemblance to the torus of a Doric capital turned upside down, as M. Viollet-le-Duc has pointed out in his *Entretiens sur l'Architecture*. In this book he illustrates the fact

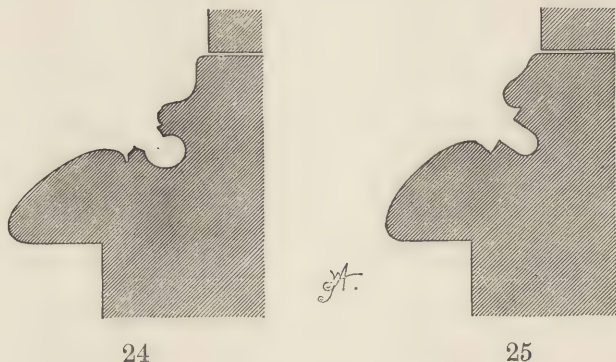


by drawings of the torus of a capital from the temple of Metapontum and the base of one of the pillars round the choir of the cathedral of Notre Dame, at Paris.*

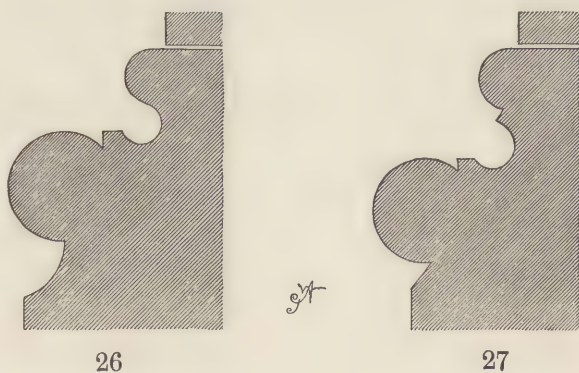
In the earlier part of the thirteenth century the base underwent no important alteration; but in later work we find it assuming such forms

* Vol. i., p. 445.

as those given in Fig. 24, from the chapter-house of Noyon cathedral, and Fig. 25, from the cloister of the same building. In twelfth century bases the diameter of the lower torus is almost invariably the same or slightly less than that of the plinth on which it rests, in the manner indicated in Figs. 20, 21, 22, and 23. In late thirteenth century work the torus considerably overhangs the sides of the plinth, as shown in Figs. 24 and



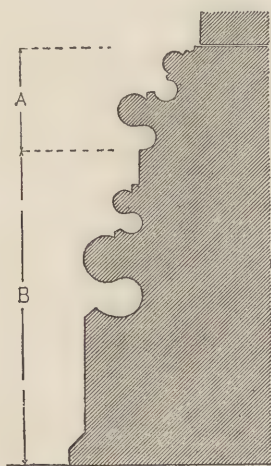
25; so much so in numerous instances as to completely cover it, doing away with the exposed corners and the necessity of introducing the griffes. In some examples, where the diameter of the torus is not so great as to entirely cover the square plinth or socle, the exposed corners are left untouched, or are cut away into some simple ornament; and on the faces of the plinth, immediately under the projecting portions of the torus, are left little brackets which support or strengthen them. Octagonal plinths



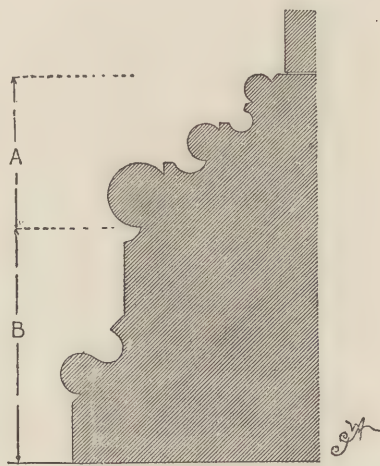
are frequently met with in thirteenth century bases, as at Chartres cathedral, and the church of Notre Dame, at Semur en Auxois (Côte d'Or).

In English architecture of the Early Pointed period, which obtained from about the beginning of the last quarter of the twelfth century till about the same time in the thirteenth century, the base is found in several

forms. In the commencement of the style the base differs but little from the late Norman; the square plinth and the griffe both appearing, as in Canterbury cathedral. Bases closely approaching the attic base in contour are frequently met with; indeed, a form which is obviously only a modification of it is one of the characteristic details of the style, as in

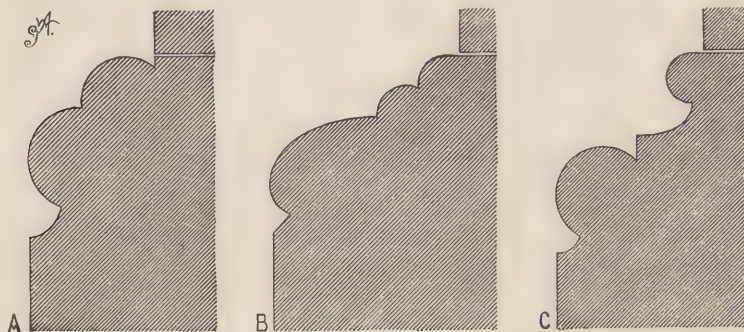


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Fig. 26, from the Temple church, London, and Fig. 27, from Stone church, Kent. In bases of this formation, bold tori of circular contour are almost invariably introduced; in them the beautiful lines of the lower tori of the French bases, of the corresponding period, are never met with. In the fully developed examples of this period the plinth commonly

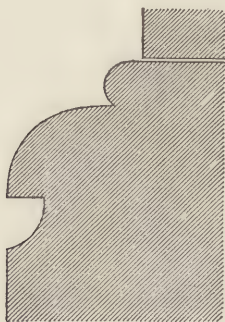


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follows the plan of the base, the square form disappearing almost entirely; polygonal plinths are met with in late works, as at Selby, Yorkshire. The plinth is frequently so richly moulded, and so accurately follows the plan of the base, that it may almost be accepted as forming an integral part thereof; this is well illustrated by an example from the choir of Lincoln

cathedral (date 1200), Fig. 28; A is the base proper and B the plinth. The plinth is often of great height, lifting the base to within a short distance of the eye. Bases of very complex character are found in Early English buildings; a good example is given in Fig. 29, from Lincoln cathedral; A is the base proper, and B the plinth.

In the four examples just given, it will be observed that the scotiæ, or hollows between the tori or rounded members, are cut downwards to such



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a degree that water can lodge in them. Such bases have accordingly been designated "water-holding bases," to readily distinguish them from the other forms prevalent during the period, which present no depressions of a similar character in their formation, as in Fig. 30. A is from Hythe church, Kent; B from Preston church, Sussex; and C from Great Casterton church, Rutland. Water-holding bases are also commonly met with in French architecture of the twelfth and thirteenth centuries; examples are given in Figs. 23, 24, and 25.



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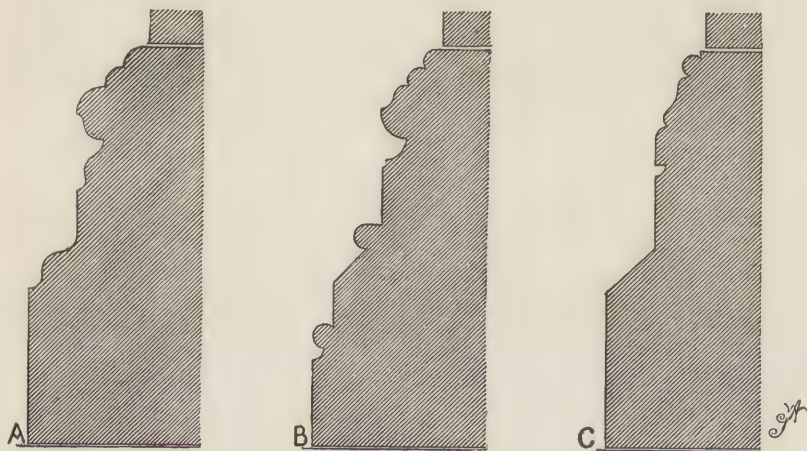


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The illustrations given of Early English bases mark all the leading types of the period; the earliest and most characteristic form is that of Fig. 27, which obtained, with but slight modification, throughout the duration of the style; the latest is that given at B, Fig. 30, from which the ordinary Decorated base was derived. The latter example has been selected on

account of the rather unusual contour of its lower member, which bears a strong resemblance to that met with in the French bases. In the generality of English examples this member is part of a circle.

In the Decorated style, which, including the short Transition period, lasted about a hundred years, and terminated at the commencement of the last quarter of the fourteenth century, the base became less bold in treatment and complex in contour than in the preceding period. All likeness to the attic base and the deeply cut water-holding hollow entirely disappear, giving place to contours formed of a succession of rolls, the scroll-moulding, and the roll-and-fillet. Fig. 31, from Waltham abbey church, Essex, and Fig. 32, from Trumpington church, Cambridgeshire, show the simpler and most common forms of Decorated bases. Fig. 33, from the Lady chapel of Ely cathedral, presents the roll-and-fillet as its lower member; and Fig. 34, from Boughton Aluph church, Kent, is a rare form in this period, having the relaxed ogee member with the annular roll above it so common in Perpendicular bases; and is accordingly indicative of



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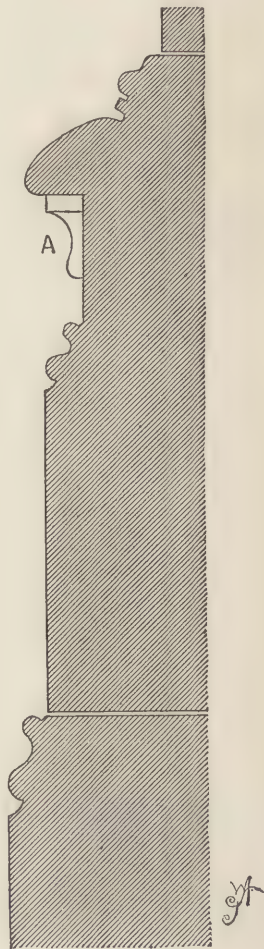
late work. In Fig. 35 are given examples of the chief remaining types of Decorated bases. A, from the nave pillars of Bottisham church, Cambridgeshire, presents the ordinary scroll-moulding characteristic of the period; B, from Hingham church, Norfolk, has the inverted scroll-moulding; and C, from Trumpington church, Cambridgeshire, presents a middle member of very common form. These examples also show the importance frequently given to the plinth. This feature in many examples of Decorated bases is carried up a considerable height from the floor, as in the Lady chapel of Wells cathedral; it is frequently octagonal or polygonal, and occasionally its faces are hollowed or fluted.*

* The following remarks, chiefly bearing on the treatment of the plinth, from the *Analysis of Gothic Architecture*, will be interesting to the student:—"Bases consist of two distinct

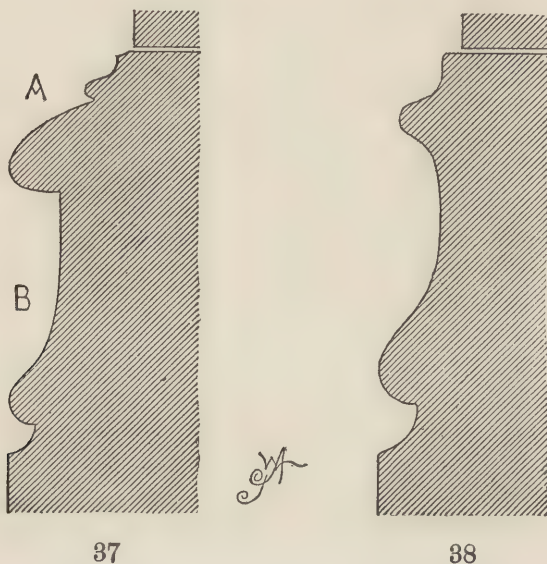
During the fourteenth century, in French architecture, the base underwent a gradual change, losing at every step more and more of the boldness which had characterised it during the preceding periods ; until, in the fifteenth century, it may be said to have lost all individuality in a few shallow and relaxed members cut out of the upper portion of the

parts, the *plinth* and the *base moldings*, the former member was most apparent during the Norman and Early English periods ; in the subsequent styles, though always to be found, it was, nevertheless, at times hardly discernible. The Norman plinth, in conformity with the head mold of the capital, was almost invariably square, and usually consisted of a plain unmolded mass of stone, on which rested the base moldings : these latter took the shape of the pier, and the blank spaces which result from placing a circle or octagon upon a square, were enriched with foliage, animals, or other ornaments. Frequently the plinth was double, in which case the lower member was generally chamfered, as at Orpington ; or molded, as in the triplet from the chapel of St. Bartholomew's Hospital. In Early English, double and even triple plinths are commonly met with, as at Clymping, and from the richness of the moldings with which they are ornamented, frequently assume considerable importance. During the Decorated period, the plinth lost much of its prominence ; in fact, the entire base was generally a less striking feature than it was in the preceding style ; instances, however, may be found of triple plinths, as at Hingham church, Norfolk" (B, fig. 35) ; "and Tunstead church, in the same county, furnishes an example of a quadruple arrangement of this member. The Perpendicular plinth grew to a most exaggerated height, was constantly double or triple, and from the number and richness of its parts, requires a close examination to separate it from the base moldings. The tower piers of St. Margaret's church, Westminster, have fine specimens of this style. Sometimes, as in the sedilia at Cobham, the base consisted solely of a plinth, the base moldings being entirely omitted. In plain churches of the Early English, and still more so of the Decorated period, a chamfered plinth, of a few inches projection, was the most usual termination to the nave piers.

"Shortly after the introduction of the Early English, the plinth began to adapt itself to the form of the pier which it supported ; the change, however, was gradual ; the square became an octagon, as in Westminster abbey church, where delicately carved knobs of foliage fill up the spaces which occur between the octagonal plinth and the circular base molds ; finally, the plinth assumed the form of the base moldings, and bent in and out with the outline of the pier. It is very singular that, after a lapse of time, the plinth should once more have become octagonal, though the base moldings still retained the circular form ; and in Perpendicular it was frequently the case that both plinth and base molds were wrought in octagonal faces, leaving only the upper molding of the latter to follow the shape of the shaft. In churches of Perpendicular date it was customary for the base moldings to encircle the shafts only ; while the plinths, on the contrary, were carried round the whole pier, as in Lindfield and Lavenham churches."



polygonal plinth, which, either in a simple or compound form, was almost invariably adopted. In buildings of the early part of the fourteenth century, bases closely resembling those which obtained during the last quarter of the previous century are frequently met with, as in the cathedral of Carcassonne (Aude), Fig. 36. This base not only presents the bracket (A) of the thirteenth century, but also has the griffe introduced at the projecting angles of the plinth.* A characteristic form of the fourteenth century base is given in Fig. 37, from the apse chapels of the cathedral of Notre-Dame, Paris (1325-1330). The base proper, A, is of circular form, placed

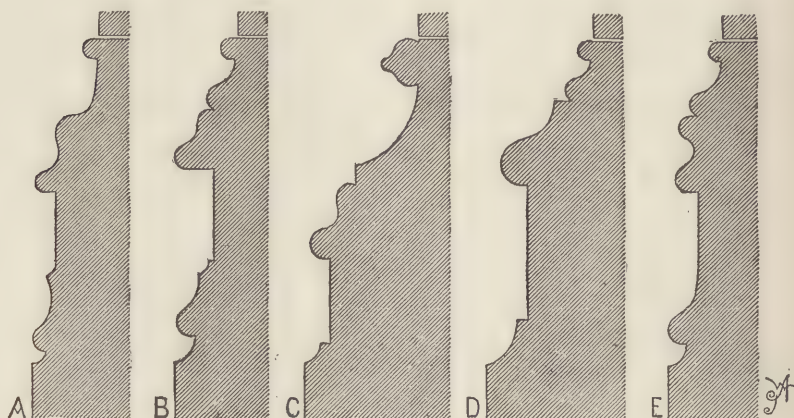


upon a polygonal plinth, moulded in its upper part, B. Fig. 38 is a base of fifteenth century date, from the cathedral of Meaux (Seine-et-Marne); here the mouldings are cut from the faces of a compound polygonal plinth, the circular shafts resting directly on them without the intervention of any circular member. This treatment, with many florid and complex modifications, obtained throughout the following period of decadence.

In English architecture of the fifteenth century, or, indeed, throughout the Perpendicular period, which opened with the fifteenth and terminated in the early part of the sixteenth century, the base assumed a much more prominent character than in the contemporaneous architecture on the Continent. It resembled the French base, however, in its generally insipid and nerveless contour, and in the complicated angular treatment of the plinth. Perpendicular bases are characterised by the almost total absence of fillets or angular members; the frequent introduction of relaxed

* A perspective drawing of this example is given in *Dict. Rais. de l'Arch. Française*. Vol. ii., p. 159.

ogee and wavy curves; the use of a cushion-like member of most objectionable contour; the invariable introduction of an annular roll, or debased roll-and-fillet or scroll-moulding at the junction with the shaft; and the frequent adoption of an octagonal form in all members below the last-mentioned annular member which invariably follows the circle of the



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shaft. Their plinths are commonly in two or more stages, united by a chamfer, casement, ogee, or some other simple moulding. The examples given in Fig. 39 represent the leading forms of Perpendicular bases; and also show the different mouldings which appear in the plinths of the period. A is from Cranbrook, Norfolk; B from Lindfield, Sussex; C from Colchester; D from St. Albans; and E from Crosby Hall.

In the Romanesque architecture of Germany, the attic type of base obtains everywhere; sometimes it is an exact reproduction, but more generally it is a simple modification; the proportions of the tori and scotia and the position of the fillets differing slightly from the classic form. The plinth is square and the griffe occasionally appears, as in the abbey church of Laach. In German pointed architecture the bases differ in no essential point from those which appear in French architecture of the corresponding periods, and call for no special notice here.

In the Gothic architecture of Spain we find a close adherence to French details; and this is clearly noticeable in the forms of the base met with in the more important buildings, such as the cathedrals of Santiago and Toledo. Speaking of the architect of the latter building, Mr. G. E. Street remarks:—"The Spanish writers all talk of him as '*Pedro Perez*;' but as the Latin inscription is the only authority for his name, he may as fairly be called Pierre le Pierre, and so become a Frenchman; and I cannot help thinking that this is, on the whole, very much more likely than that he should have been a Spaniard. This, at any rate, is certain: the first architect of Toledo, whether he were French or Spanish, was

thoroughly well acquainted with the best French churches, and could not otherwise have done what he did. In Spain itself there was, as I have said before, nothing to lead gradually to the full development of the pointed style. We find, on the contrary, buildings, planned evidently by foreign hands, rising suddenly, without any connexion with other buildings in their own district, and yet with most obvious features of similarity to works in other countries erected just before them. Such, I have shown, is the case with the cathedrals of Burgos, at Leon, and at Santiago, and such even more decidedly is the case here. Moreover, in Toledo, if anywhere, was such a circumstance as this to be expected. In this part of Spain there was in the thirteenth century no trained school of native artists. Even after the conquest the Moors continued to act as architects for Christian buildings whether secular or ecclesiastical, and, indeed, to monopolise all the science and art of the country which they no longer ruled. In such a state of things, I can imagine nothing more natural than that, though the Toledans may have been well content to employ Mahomedan art in their ordinary works, yet, when it came to be a question of rebuilding their cathedral on a scale vaster than anything which had as yet been attempted, they would be anxious to adopt some distinctly Christian form of art; and, lacking entirely any school of their own, would be more likely to secure the services of a Frenchman than of anyone else; whilst the French archbishop, who at the time occupied the see, would be of all men the least likely to sympathise with Moorsque work, and most anxious to employ a French artist. But, however this may have been, the church is thoroughly French in its ground-plan, and equally French in all its details* for some height from the ground; and it is not until we reach the triforium of the choir that any other influence is visible; but even here the work is French work, only slightly modified by some acquaintance with Moorish art.”†

In the foregoing article, necessarily brief and imperfect as it is, enough has probably been said to give the student a general idea of the introduction and development of the architectural feature or detail under

* “I venture to speak with great positiveness about some features of detail. It is possible enough that architects in various countries may develop from one original—say from a Lombard original—groups of buildings which shall have a general similarity. They may increase this similarity by travel. But in each country certain conventionalities have been introduced in the designing of details which it is most rare to see anywhere out of the country which produced them. Such, *e.g.*, are the delicate differences between the French and English bases of the thirteenth century, nay even between the bases in various parts of the present French empire. These differences are so delicate that it is all but impossible to explain them; yet no one who has carefully studied them will doubt, when he sees a French moulding used throughout a building, that French artists had much to do with its design.”—*Some Account of Gothic Architecture in Spain.*

† We cannot let this opportunity pass of bearing testimony to the great debt of gratitude the student of architecture owes to Mr. G. E. Street, for his full and admirable treatise on the Gothic architecture of Spain, from which the above quotations are taken. Until his labours in this direction were completed, the subject of the Gothic architecture beyond the Pyrenees was comparatively little known.

review. In a work like this, anything approaching an exhaustive treatise on any subject is impossible; condensation and abridgment must ever be recognised as imperative. We have omitted any allusion to the Saracenic styles of architecture, for in them the base frequently is entirely absent, and when it is introduced, it is in a timid manner, devoid of importance and individuality; there are a few exceptions, however, to this rule in the Saracenic architecture of India.

BASE OF A WALL. The projecting portion on the exterior or interior of a wall, close to the ground or floor; which gives a pleasing effect of stability to the wall, and at the same time forms an artistic transition from the horizontal to the vertical surfaces. It is also the place where the reduction in the thickness of a wall is commonly made from the dimension considered necessary in the foundation only.

The Greek architects appear seldom to have given an independent base to the walls of their buildings, usually contenting themselves by carrying along them the mouldings of the bases of the antæ, as in the Ionic temple on the Ilissus (now destroyed) and the Erechtheum, at Athens. Such a simple and obvious expedient is quite in accord with the simplicity and refinement of Greek taste. These buildings presented the most elaborate examples known. Simpler forms are met with in the temple of Theseus, where the base of the wall is a reversed ogee; in the temple of Diana, at Eleusis, where it is of a similar form with the addition of a detached astragal above; in the temple of Jupiter Olympius, at Athens, where it is a reversed cyma with fillets. The wall of the octagonal tower of Andronicus Cyrrhestes has a base similar in contour to the Tuscan. Simple plinths occur in the temple of Neptune, at Pæstum, and the temple of Apollo Epicurius, at Bassæ; but the most remarkable of all examples is that of the great Doric temple, at Agrigentum, where the entire high base upon which the attached columns are placed is carried along the walls.*

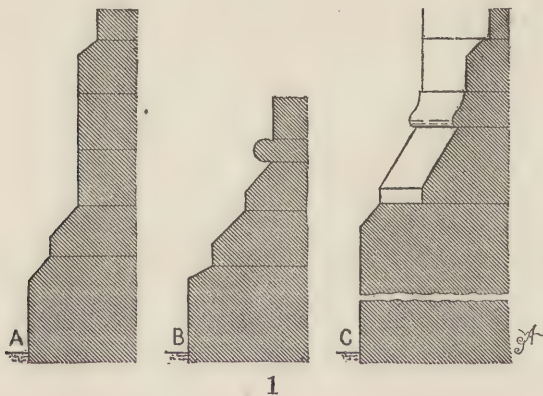
In Roman architecture much more elaborate treatments obtain than are found in Grecian buildings, but as a rule such bases strictly belong to the pedestals and stylobates freely introduced by the Roman architects, and we therefore must refer our readers for remarks on them to the articles *Pedestal* and *Stylobate*. When applied to a wall, in the manner of the Greek architects, the base usually was a continuation of the antæ, as in the portico of the Pantheon, and the cell of the temple of Antoninus and Faustina, at Rome. The cell of the circular temple of Vesta, at Rome, has a base of the Tuscan type, whilst the columns have attic bases; but this may more correctly be considered as belonging to the stylobate which forms the lower portion of the cell wall.

The feature under review, however, does not appear in what may be pronounced its full development until we enter mediæval architecture.

* See article, *Base of a Column or Pillar*, page 32.

Here we find it in numerous forms, and frequently, in important buildings, assuming large proportions. It usually consists of one, two, or three "tables," more or less richly moulded. The lowest set-off is designated the *ground table*, *earth table*, or *grass table*, whilst those above are called the *ledgement tables*.*

The English architects appear to have more generally recognised the value of the base, both as a constructional and ornamental feature, than either the architects of France or Italy. In the generality of early French buildings it is altogether absent, or appears in the simplest possible form, that of a single chamfered or simply moulded table. In some important buildings two or three plain tables are introduced, as in the cathedral of Séez. In other buildings in Normandy the base assumes proportions and a treatment more allied to what is so commonly found in our own architecture. The base of the walls of the choir (twelfth century) of the church of Saint-Étienne (abbaye aux Hommes) at Caen, is about four feet six inches in height, having a rounded member where it joins the wall, and immediately underneath a very bold triple set-off. A similar



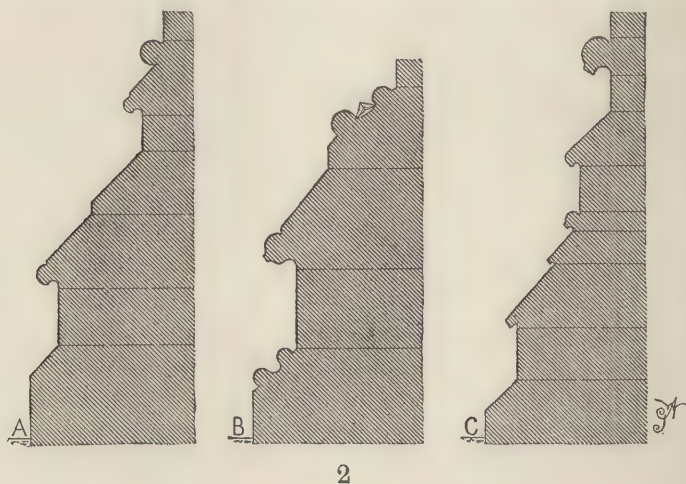
base is to be seen in the choir (thirteenth century) of the cathedral of Coutances. The church of Saint Ouen, at Rouen, has a base about five feet high, of slight projection, with deep mouldings of the ordinary relaxed

* "The ground table, grass table, or earth table, 'le table versus et prope terram,' must be the first slope; and I believe that the remaining base tables, whatever may be their number, were termed the ledgement tables. The word *leggement* simply implies lying or horizontality; but as all tables are horizontal, the epithet cannot be in this case applied in its general sense, but may fairly be taken in the more limited one of a basement, the whole mass of which lies on the ground below the wall.

"The word *ledger* is still used by masons for any horizontal slab of stone, such as the covering slab of an altar-tomb, and in this sense we find it in various ancient documents, e.g. '100 foote of blacke touchestone is sufficient for the *legger* and base of the saide tombe' (of H. vii). Also the height of the tombe of Ralph Greene, at Luffwick, co. Northampton, is covenanted to be 'avec le *leggement* trois pees d'assise.'"—Professor Willis. *Architectural Nomenclature of the Middle Ages*.

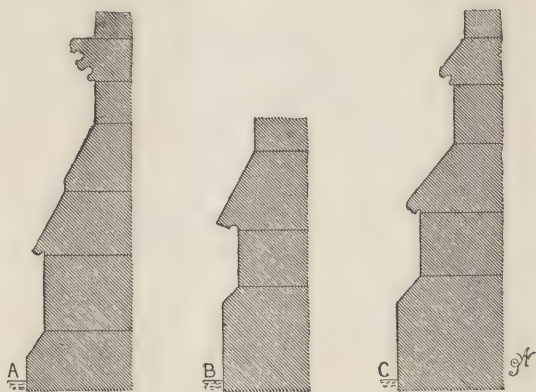
contour, met with in late work. In numerous cases the bases of French buildings are hidden from view by the accumulation of the soil around them, as at the cathedral of Bayeux and other buildings throughout the country.

The base is found in English mediæval architecture, in a great variety of forms, and frequently with a richness of treatment unknown in Continental



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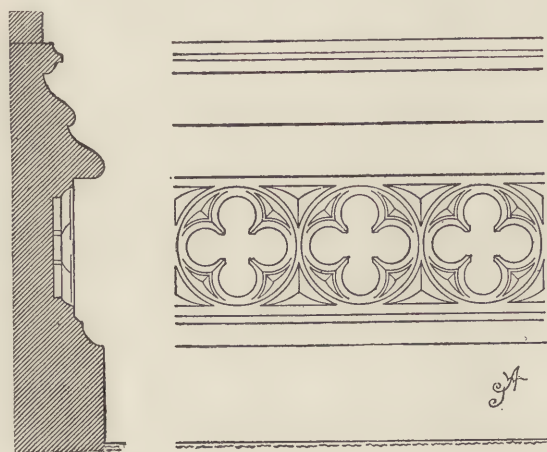
examples. In Fig. 1 are three forms of Late Norman or Transitional bases. A is from the nave of Fountains abbey; B from the nave of Byland abbey; and C from Kirkstall abbey. That from Byland is similar in the number and class of its members to the bases of Saint-Étienne and the cathedral of



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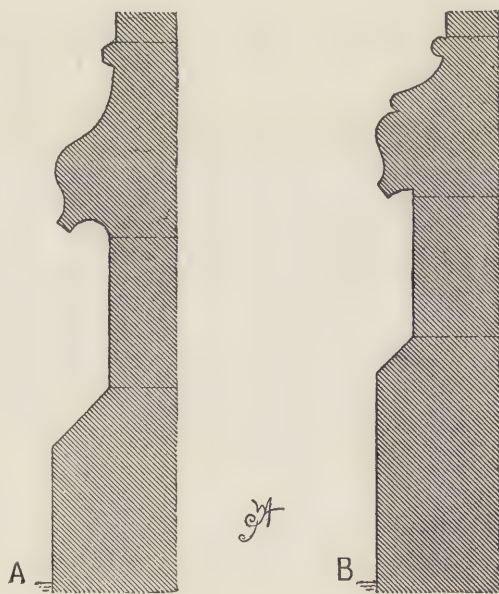
Coutances, a similarity readily accounted for by the close intercourse of the architects of both countries at the period. In Fig. 2 are fine examples of Early English bases. A is from the choir of Rievaulx abbey; B from the north transept of Hexham; and C from the nave of Bridlington. Bases of simpler treatment, with large sloping tables, are common in works of

this period, as at Roche Abbey and Whitby. Three sections of Decorated bases are given in Fig. 3. A, of early date, from the choir of Guisborough



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abbey; B, of later date, from the choir of Howden; and C from the choir of Selby. In Perpendicular work the base seldom has much projection;



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it is, however, occasionally of great height, and richly ornamented with tracery and carving, as in Henry the Seventh's chapel, Westminster abbey, and in Haslingden church, Cambridgeshire, Fig. 4. A, Fig. 5, from New

Walsingham church, Norfolk, and B, from Ryall church, Rutlandshire, are usual types of the bases of the period.

BASES. According to Planché, "the plaited skirts appended to the doublet and reaching from the waist to the knee, which are so noticeable in the male costume of the time of Henry VII., and in the early part of that of Henry VIII., and were imitated in the armour of that period. They were made of cloth, velvet, or rich brocaded stuffs, and worn with armour, as well as without. They appear to have been a German or Italian fashion, as examples abound in paintings and engravings of the Maximilian era. 'Coats with bases or skirts' are mentioned in an inventory of the apparel of King Henry VIII. (Harleian MS. 2884)."

BASIL, ST. St. Basil the Great, Bishop, Confessor, and one of the Fathers of the Greek Church, is too important a personage to be omitted here, notwithstanding the rarity of his appearance in works of art. All that is known of his life is quickly told. He was born at Cesarea, in Cappadocia, in the year 328. All the members of the family to which he belonged are venerated as saints in the Eastern Church. His father, St. Basil, his mother, St. Emmelie, his brothers, St. Gregory of Nyssa and St. Peter of Sebaste, and his sister, St. Macrina, are all to be found in the Greek calendar.

After his home education, under the able direction of his grandmother, he studied philosophy, law, and eloquence at Constantinople and Athens. His success in learning so filled his mind with vanity, that it required all the earnest pleadings of his saintly sister to prevent him becoming a castaway. Influenced by her example and her earnest appeals to his higher nature, Basil devoted himself entirely to the service of Christianity and the advancement of the Church. To purify his mind, and to bring his will into due subjection, he first retired to the desert and dwelt amongst the hermits, in poverty, mortification of the flesh, contemplation, and study of the Gospel. So severe were his self-denial and austerities that he completely undermined his constitution, remaining throughout all his after life a miserable invalid. He was ordained a priest in 362; and on the 14th of June, 370, he was elevated to the episcopal throne of Cesarea.

As bishop, he distinguished himself in the advocacy of the doctrine of the Trinity against the Arians; and in his memorable opposition to the Emperor Valens, who ordered that in the cathedral of Cesarea the rites should be performed in accordance with the custom of the Arians. Basil refused to depart from the orthodox form, notwithstanding that he was threatened with death if he objected. With the view of overawing the bishop, Valens, in state, and surrounded by his courtiers and guards, attended the service on the day of the

Epiphany. Basil took no notice of the emperor's presence, and, although he had received extraordinary injunctions previously, calmly commenced the orthodox service. Astonished at this firmness on the part of the bishop, the emperor approached the altar with his oblation, but no one would receive it. Basil steadily proceeded, allowing the emperor to stand rejected in sight of the whole congregation. Overcome with conflicting emotions at this unexpected treatment, Valens lost his presence of mind, and only escaped falling heavily to the floor in a swoon, by being caught in the arms of one of his courtiers. The bishop gained a little by this firmness, in the shape of certain concessions, but the emperor remained an Arian. This is the only scene from the life of St. Basil to which artists have given any attention; but it seems never to have been done justice to. Mrs. Jamison says:—"The Emperor Valens in the church at Cesarea, an admirably picturesque subject, has received as little justice as the scene between Ambrose and Theodosius. When the French painter Subleyras was at Rome in 1745, he raised himself to name and fame by his portrait of Benedict XIV., and received, through the interest of his friend Cardinal Valenti, the commission to paint a picture for one of the mosaics in St. Peter's. The subject selected was the Emperor Valens fainting in presence of St. Basil. We have all the pomp of the scene:—the altar, the incense, the richly attired priests on one side; on the other, the Imperial court. It is not easy to find fault, for the picture is well drawn, well composed, in the mannered taste of that time; well coloured, rather tenderly than forcibly; and Lanzi is enthusiastic in his praise of the draperies; yet, as a whole, it leaves the mind unimpressed. As usual, the original sketch for this picture far excels the large composition."*

In portraitures, St. Basil has always been represented as a thin man, with an intellectual countenance, on which, however, a life of austerity and suffering is clearly stamped. He is correctly represented in full Greek pontifical vestments, usually bareheaded, and carrying in one hand a copy of the Gospels. The directions as to his representation are thus given in the *Byzantine Guide to Painting*:—"Le grand Basile: cheveux gris, grande barbe, sourcils arqués. Il dit sur un cartel: 'Personne n'est digne, de ceux qui sont liés par les désirs charnels,' etc."

St. Basil died, worn out by lingering disease, in the year 379. In the Roman, Old English (Sarum use), Scottish, Spanish, and German calendars, his day is June 14th. In the French calendar, his day is January 2nd. In the Byzantine calendar, he is commemorated on November 12th; and in the calendars of the Armenian and Ethiopian Churches, on January 1st. So great a diversity of dates is not easily accounted for.

* "La messe de Saint Basile. Louvre, Ecole Française, 508."

BASILICA. The name given by the Romans to a description of building chiefly devoted to the courts of law, but which appears also to have been commonly used as an exchange, or place of meeting for merchants. "The term is derived, according to Philander (*Comment. in Vitruv.*), from βασιλεύς, a king, in reference to early times, when the chief magistrate administered the laws he made; but it is more immediately adopted from the Greeks of Athens, whose second archon was styled ἄρχων βασιλεύς, and the tribunal where he adjudicated στοὰ βασιλῆος (Paus. i. 3. § 1; Demosth. c. *Aristogeit.*, p. 776), the substantive *aula* or *porticus* in Latin being omitted for convenience. The Greek writers, who speak of the Roman basilicæ, call them sometimes στοὰ βασιλικαί, and sometimes merely στοαί. The name alone would make it highly probable that the Romans were indebted to the Greeks for the idea of the building, which was probably borrowed from the στοὰ βασιλῆος at Athens. In its original form it may be described as an *insulated portico*, detached from the *agera* or *forum*, for the more convenient transaction of business, which formerly took place in the porticoes of the *agora* itself; in fact, a sort of *agora* in miniature. The court of the Hellanodicae, in the old *agora* of Elis, was exactly of the form of a basilica." *

The term basilica is used by several of the early ecclesiastical writers for a church; and has continued in use to the present day as the most appropriate name for a large church, built in close resemblance to the civil basilicæ of pagan Rome. The reason of its early adoption is not difficult to understand, even if we put out of consideration the literal meaning of the word itself, which rendered its application to a building dedicated to the service of the "King of Kings," anything but inappropriate. Bingham remarks:—"Another common name of churches is that of basilicæ, which we may English, *palaces of the great King*. This name frequently occurs in St. Ambrose, St. Austin, St. Jerom, Sidonius Apollinaris, and other writers of the fourth and fifth ages, before which time we scarce meet with it in any Christian author. For originally the *basilicæ* among the Romans were the public halls or courts of judicature, where the princes or magistrates sat to hear and determine causes; and other buildings of public use, such as state-houses and exchanges for merchants, &c., went by the same name among them. But upon the conversion of Constantine, many of these were given to the Church, and turned into another use, for Christian assemblies to meet in; as may be collected from that passage in Ausonius where, speaking to the Emperor Gratian, he tells him, 'the *basilicæ*, which heretofore were wont to be filled with men of business, were now thronged with votaries, praying for his safety.' By which he must needs mean, that the Roman halls or courts were turned into Christian churches. And hence, I conceive, the name *basilicæ* came to be a general name for churches in after-ages. Though I know Durantus and Bona have other reasons beside this for the appellation, as that it was because churches

* Anthony Rich, B.A., in *Dict. of Greek and Roman Antiq.*

were places where sacrifice was offered to God, the King of all the earth ; or because they were only the more stately and magnificent churches which had the title ; which is not true in fact, for ever since it came first into use, it appears to have been the common name of all churches." *

Notwithstanding Bingham's concluding remark, there is little doubt that the opinions held by Durantus and Bona are correct. The basilica, strictly speaking, was not only a magnificent church, but it was one similar in general plan and construction to the original civil basilica, from which it derived its name.

The pagan basilica differed in its arrangement from all other buildings for public use. It was a covered place of meeting, consisting, internally, of a spacious and lofty central hall (*media porticus*), or what we may designate the nave, surrounded by a continuous aisle, or what Vitruvius calls the portico, divided from the central portion by columns rising from the floor. Over the portico was constructed a gallery, with an upper range of columns. The building was usually entered at one end through a vestibule ; and at the opposite end was formed a deep recess, generally semicircular in plan and about the width of the nave. This was the tribunal or tribune in which the courts of law were held. One end of the portico passed in front of the tribune, dividing it in a convenient manner from the hall of assembly, where ordinary business conversation went on at all hours of the day. Stairs to the gallery, and several small apartments, retiring-rooms, and chambers for the officers of the court, adjoining the tribune, completed the appointments of the basilica. The only ancient writer who gives us any particulars relating to the proportions and design of the basilica is Vitruvius, and we cannot do better than quote his words at this point :— "The basilica should be situated adjoining the forum, on the warmest side, so that the merchants may assemble there in winter, without being inconvenienced by the cold. Its width must not be less than a third part, nor more than half its length, unless the nature of the site prevents it, and imposes a different proportion ; if, however, that be longer than necessary, a chalcidicum is placed at the extremity, as in the Julian basilica on the Aquiline. The columns of basilicæ are to be of a height equal to the breadth of the portico, and the width of the portico one-third of the space in the middle. The upper columns, as hereinabove described,† are to be less than those below. The parapet between the upper columns should be made one-fourth less than those columns, so that those walking on the floor of the basilica may not be seen by the merchants. Basilicæ, similar to that which I designed and carried into execution in the Julian colony of Fano, will not be deficient either in dignity or beauty. The proportions

* Bingham's Works, vol. iii., p. 8.

† "The upper columns are to be made one-fourth less than those below ; and that because the latter being loaded with a weight, ought to be the stronger ; because, also, we should follow the practice of nature, which, in straight growing trees, like the fir, cypress, and pine, makes the thickness at the root greater than it is at top, and preserves a gradual diminution throughout their height.—Book v., cap. 1.

and symmetry of this are as follow. The middle vault, between the columns, is one hundred and twenty feet long, and sixty feet wide. The portico round it, between the walls and columns, is twenty feet wide. The height of the columns, including the capitals, is fifty feet, their thickness five feet, and they have pilasters behind them twenty feet high, two feet and a half wide, and one and a half thick, supporting beams which carry the floor of the portico. Above these other pilasters are placed, eighteen feet high, two feet wide, and one foot thick, which also receive timbers for carrying the rafters of the portico, whose roof is lower than the vault. The spaces remaining between the beams, over the pilasters and the columns, are left open for light in the intercolumniations. The columns in the direction of the breadth of the vault are four in number, including those on the angles right and left; lengthwise, in which direction it joins the forum, the number is eight, including those at the angles; on the opposite side, including all the angle columns, there are six columns, because the two central ones on that side are omitted, so that the view of the pronaos of the temple of Augustus may not be obstructed: this is placed in the middle of the side-wall of the basilica, facing the centre of the forum and the temple of Jupiter. The tribunal is in the shape of a segment of a circle, the front dimension of which is forty-six feet, that of its depth fifteen feet; and it is so contrived, that the merchants who are in the basilica may not interfere with those who have business before the magistrates. Over the columns round the building architraves are placed. These are triple, each of them two feet in size, and are fastened together. At the third column, on the inside, they return to the antæ of the pronaos, and are carried on to meet the segment on the right and left. Over the architraves, upright with the capitals, piers are built three feet high and four feet square, on which are laid beams well wrought, joined together in two thicknesses of two feet each, and thereon the beams and rafters are placed over the columns, antæ, and walls of the pronaos, carrying one continued ridge along the basilica, and another from the centre thereof over the pronaos of the temple. Thus the two-fold direction of the roof gives an agreeable effect outside, and to the lofty vault within. By this arrangement the omission of the cornices and parapets, and the upper range of columns, saves considerable labour, and greatly diminishes the cost of the work; and the columns in one height, brought up to the architrave of the arch, give an appearance of magnificence and dignity to the building.”* In another part of his work† Vitruvius includes a basilica as a necessary adjunct to the dwelling house of a nobleman; he says:—“for nobles, who in bearing honours, and discharging the duties of the magistracy, must have much intercourse with the citizens, princely vestibules must be provided, lofty atria, and spacious peristylia, groves, and extensive walks, finished in a magnificent style. In addition to these, libraries, pinacothecæ, and *basilicæ*, of similar form to those which are

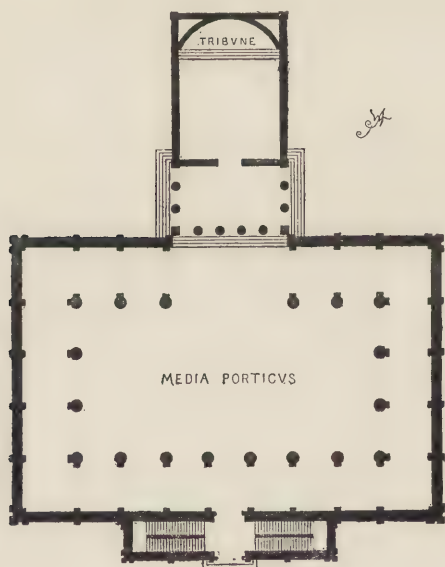
* Gwilt's translation, Book v., cap. 1.

† Ibid, Book vi., cap. 8.

made for the public use, are to be provided; for in the houses of the noble, the affairs of the public, and decision and judgment of private causes are often determined."

The above descriptions by Vitruvius are not so clear as could be desired, although, in combination with the other information we have, they assist us in forming a tolerably accurate idea of the appearance and construction of the Roman basilica.

It is the opinion of some authorities that the early basilicæ were open on the sides to the external air, columns alone being used to support the galleries and roofs. We do not think this idea is in any way supported by the most obvious reading of the text of Vitruvius. Notwithstanding its being situated "on the warmest side of the forum," it is difficult to imagine that the basilica would be a place where merchants might assemble in winter "without being inconvenienced by the cold," unless it was enclosed on all sides by walls; as, indeed, the remains at Pompeii prove the important basilica at the south-west corner of the forum to have been. (See plan, Fig. 3.) Besides, in describing his own basilica, at Fano, he certainly alludes to an enclosed building; he says:—"the portico round



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it, between the *walls* and columns, is twenty feet wide." The only opening of any importance in the walls appears to have been that left so that the pronaos of the temple of Augustus might be seen from the interior. Other openings, only large enough to admit sufficient light, were provided above the gallery.

From Gwilt's translation it is difficult to realise the exact disposition of the plan of the basilica at Fano, and especially with regard to the position

of the tribunal. From the text of Vitruvius, however, it appears clear that the cell of the temple of Augustus ended in the shallow segmental tribune, for which dimensions are given, and that it formed the place set apart for the courts.* In Fig. 1 is given a supposed plan of this basilica, taken from Gailhabaud's *Monuments Anciens et Modernes*. It appears to be a very reasonable rendering of the description by Vitruvius.

It is worthy of observation that Vitruvius directs basilicæ to be constructed with porticoes and galleries over them, with separate orders or ranges of columns; and, immediately afterwards, he describes his own basilica, at Fano, as having only a single order of columns, of great dimensions, rising from the floor to the architrave immediately under the vault, and, accordingly, passing in front of the gallery, whose beams rested upon the pilasters projecting from the backs of the columns. In this case he evidently departed from the commonly accepted mode of construction.

The arrangement of the tribune in the civil basilica was very simple. Its form was usually that of an apse, either semicircular or segmental in plan, but sometimes it was quadrangular, as in the basilica at Pompeii. In the centre of the tribune was placed the curule chair of the prætor and the seats for the judices and advocates; and round the sides or each half of the apse (called *cornua*) were raised platforms with seats for the accommodation of distinguished persons or those connected with the causes before the court. The seats of the hemicycle were designated *subsellia*. In the centre, on the chord of the apse, or a short distance in front of it, was placed an altar, used for libations or incense to the gods, before the daily opening of the court, and probably also for the administration of the usual oaths. The floor of the tribune was raised several steps above that of the basilica, and was partially enclosed by a wall four or five feet in height, or by a perforated screen, with the view of separating it from the general business portion of the building. When the tribune was in the form of a semicircular apse, it was usually covered by a semi-dome, but usually had an ordinary flat ceiling when segmental or quadrangular.

There is a considerable diversity of opinion amongst the commentators of Vitruvius as to the signification of the term *chalcidica*, wrongly rendered by Gwilt in the singular.† The sources from which English writers have derived their ideas on the subject are so clearly brought together by Vaudoyer (*Mon. Anc. et Mod.*), that we cannot do better than give his short dissertation, and in his own words:—

“Après avoir décrit les basiliques, il nous reste à parler des *chalcidiqes*, ces annexes que Vitruve réclame pour certaines basiliques, quand l’étendue du terrain le

* “Columnæ sunt in latitudine testudinis cum angularibus dextra ac sinistra, quaternæ; in longitudine, quæ est foro proxima, cum iisdem angularibus octo: ex altera parte eum angularibus sex, ideo quod mediæ duæ in ea parte non sunt positæ, ne impediunt aspectus pronai ædis Augusti, quæ est in medio latere parietis basilicæ collocata spectans medium forum et ædem Jovis. Item tribunal est in ea æde hemicycli schematis, minore curvatura formatum. Ejus autem hemicycli in fronte est intervallum pædum xlv., introrsus curvatura pædum xv., uti eos qui apud magistratus starent, negotiantes in basilica ne impedirent.”

† “Sin autem locus erit amplior in longitudine, *chalcidica* in extremis constituentur.”

permettra ; mais en donnant cette indication, Vitruve ne faisant pas connaître quel était l'usage des chalcidiques, ses commentateurs et les archéologues n'ont même pas pu parvenir à donner une explication satisfaisante du sens qu'il faut attacher à ce mot chalcidiques.

“ Les interprétations les plus diverses ont été basées, tantôt sur une étymologie, tantôt sur une autre. Barbaro et Baldus pensent que *Chalcidicum* est un nom propre pour cet édifice, que Dion dit avoir été élevé par Jules César en l'honneur de son père.

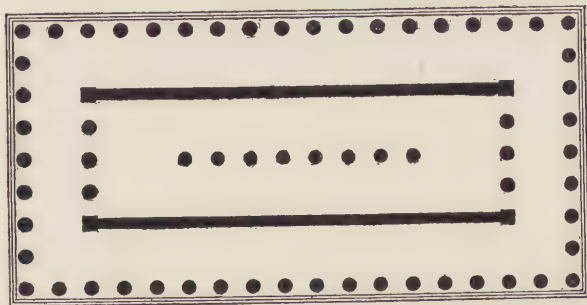
“ D'après l'autorité de Festus, les chalcidiques auraient dû leur nom et leur origine à la ville de Chalcis ; cette hypothèse, quoique peut-être la plus admissible, ne nous mettrait cependant pas à même de déterminer clairement et l'usage et la forme des chalcidiques ; mais nous pensons qu'il est au moins permis de conclure que sous ce nom il faut entendre des salles qui n'étaient pas rigoureusement nécessaires, mais dont, pour un plus grand luxe, les basiliques se trouvaient quelquefois accompagnées.

“ Palladio, d'après la liberté laissée par Vitruve de mettre des chalcidiques ou de n'en pas mettre, s'est dispensé de toute conjecture à cet égard, en n'en supposant pas dans le plan de sa basilique ; il avait pu, du reste, s'y croire suffisamment autorisé, par Vitruve lui-même, qui n'en avait pas mis à sa basilique de Fano.

“ Perrault, pensant que chalcidiques signifient de grandes salles situées au premier étage, en a placé une à chaque extrémité de sa basilique, au niveau des galeries supérieures.

“ L.-B. Alberti, quoique ayant changé le nom de *chalcidicum* en *causidicum*, est peut-être celui qui a le mieux résolu le problème des chalcidiques. Selon lui, ce seraient des espèces d'ailes en avant du tribunal, et formant, avec la nef, la forme du T, c'est-à-dire la croix qu'on retrouve dans les basiliques chrétiennes. M. Quatremère de Quincy regarde cette opinion comme tout à fait fondée, et nous sommes disposé à l'admettre avec lui comme la plus satisfaisante, mais sans toutefois la considérer comme une solution définitive ; car la moindre découverte peut, d'un jour à l'autre, nous en apprendre beaucoup plus à ce sujet que tous les commentaires auxquels on pourra longtemps encore se livrer avec plus ou moins d'incertitude.”

It is evident that the chalcidica are adjuncts of considerable dimensions, and not merely small chambers cut off from the ends, which served as offices for the judges or merchants, as some writers have suggested ; for Vitruvius proposes their introduction only when the site is longer than is desirable for the proportions of the main part of the basilica. One



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can easily imagine the advantage of there being a wide space in front of the tribune, for the convenience of those connected with the legal pro-

ceedings; and also for a corresponding wide portion between the entrance vestibule and the nave proper, for the convenience of those continually entering and leaving the building; and we have very little doubt that such spacious adjuncts, extending entirely across the interior, were the *chalcidica*. (See *Chalcidicum*.)

Of the form and arrangements of Greek basilicæ nothing is known, unless the remains of the building at Pæstum, which has the unusual number of nine columns at each end, are those of the basilica of that place, as is maintained by Quatremère de Quincy with some show of reason. We give, in Fig. 2, a plan of this interesting building, but want of space prevents our going into De Quincy's arguments in the matter.*

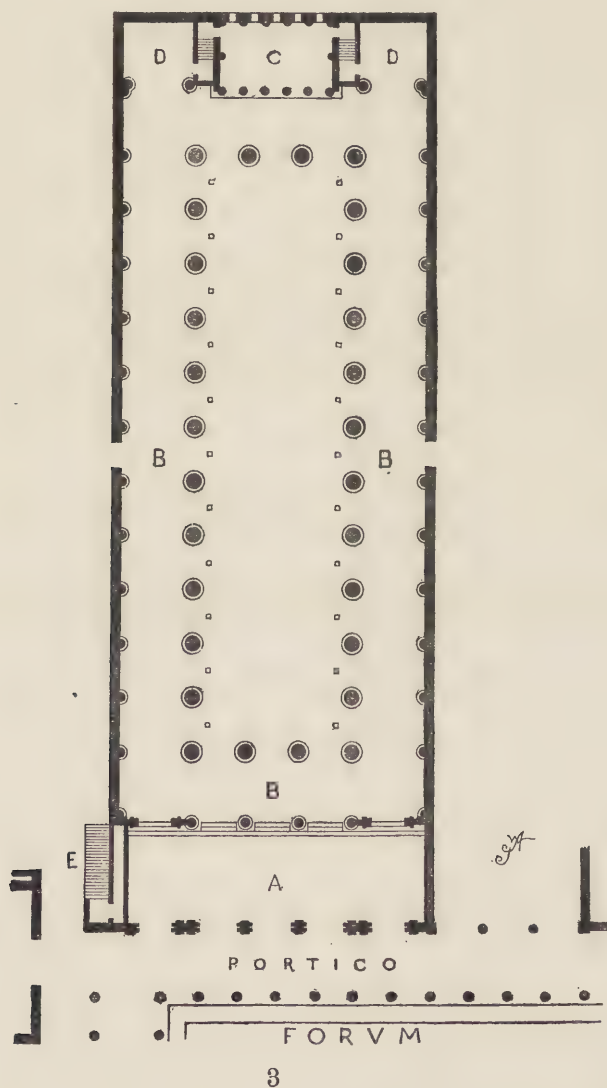
The following notes by Rich on the early Roman basilicæ, mentioned by different authors, will not be out of place here:—"The first edifice of this description was not erected until B.C. 184 (Liv. xxxix. 44); for it is expressly stated by the historian, that there were no basilicæ at the time of the fire, which destroyed so many buildings in the forum, under the consulate of Marcellus and Laevinus, B.C. 210. (Liv. xxvi. 27.) It was situated in the forum adjoining the curia, and was denominated basilica Porcia, in commemoration of its founder, M. Porcius Cato. Besides this, there were twenty others, erected at different periods, within the city of Rome (Pitisc. *Lex. Ant. s. v. Basilica*), of which the following are the most frequently alluded to by the ancient authors:—1. *Basilica Sempronia*, constructed by Titus Sempronius, B.C. 171 (Liv. xlv. 16); and supposed, by Donati and Nardini, to have been between the vicus Tuscus and the Velabrum. 2. *Basilica Opimia*, which was above the comitium. 3. *Basilica Pauli Aemilii*, or *Basilica Aemilia*, called also *Regia Pauli* by Statius (*l. c.*). Cicero (*Ad Att.* iv. 16) mentions two basilicæ of this name, of which one was built, and the other only restored, by Paulus Aemilius. Both these edifices were in the forum, and one was celebrated for its open peristyle of Phrygian columns. 4. *Basilica Pompeii*, called also *regia* (Suet. *Aug.* 31), near the theatre of Pompey. 5. *Basilica Julia*, erected by Julius Caesar, in the forum, and opposite to the basilica Aemilia. (Suet. *Calig.* 37.) 6. *Basilica Caii et Lucii*, the grandsons of Augustus, by whom it was founded. (Suet. *Aug.* 29.) 7. *Basilica Ulpia*, or *Traiani*, in the forum of Trajan. 8. *Basilica Constantini*, erected by the Emperor Constantine, supposed to be the ruin now remaining on the via sacra, near the temple of Rome and Venus, and commonly called the temple of Peace. Of all these magnificent edifices nothing now remains beyond the ground-plan, and the bases and some portion of the columns and superstructure of the two last."

Of the antique basilicæ, those at Pompeii and Trèves have perhaps suffered the least from the hand of time; the former, when excavated,

* For these arguments and a detailed description of the building, see articles *Basilique* and *Pæstum*, in *Dictionnaire Historique d'Architecture*, Paris, 1832.

presented the materials for a tolerably accurate restoration, especially so far as its lower part is concerned; whilst the walls of the latter remain practically entire.

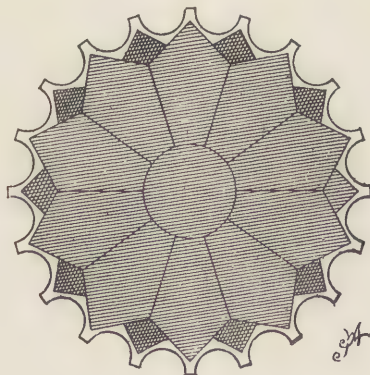
The basilica of Pompeii is situated at the south-west corner of the forum, its entrance being from the western portico, through what appears to have been an open court, introduced, no doubt, to prevent inconvenient crowding and obstruction in the portico of the forum. It will be seen, on



reference to the plan, Fig. 3, that the basilica was of the usual parallelogramic form, measuring externally about 225 feet by 80 feet, the length of the interior, exclusive of the tribune, being about 175 feet. These

dimensions are taken from Gell's plan of the forum and its surrounding buildings. From the open court, A, the building was entered, through three intercolumnations, and two lateral doors, directly into the eastern part of the internal portico. The portico, B, surrounded the basilica, having twenty-eight columns of the Ionic order, three feet seven inches in diameter. These columns, similar to those of the basilica at Fano, rose to the entablature on which the central roof (*testudo*) was supported. Whether, however, the light, above the gallery roof, was admitted between the capitals of the columns, as appears to have been the case in the building at Fano, or by windows between the entablature and the ceiling, must ever remain an unsettled question. Gell adopts the former idea, whilst other authorities, amongst which is E. Bosc, place windows over the entablature of the order.* Guhl and Koner, founding their opinions on Mazois, believe that no gallery was introduced; but that the portico and nave were nearly equal in height, and the interior lighted by windows in the side walls.

Although purely practical matters and details of construction are foreign to the aims of this Work, it may not be out of place here to illustrate the ingenious method of construction adopted by the Pompeian architect, in the columns just alluded to. They were required to be of considerable strength, and yet the materials to be used were only brick and plaster; he



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accordingly adopted thin bricks or tiles, specially formed, and disposed as shown in Fig. 4. Bond was secured in every course; whilst the alternating points and hollows between the flutes gave firm support and a perfect key to the external plaster coating. Speaking of this plaster, Gell remarks:—"The plaster is peculiarly good, and has almost the hardness of porcelain."

On each side of the basilica was a doorway, which gave entrance from

* See drawing of the interior, restored, plate vii., in *Dictionnaire raisonné d'Architecture*. M. Bosc here introduces the Corinthian instead of the Ionic order, with what authority we know not. He does not, indeed, devote a hundred words to the description of this basilica

the streets. The tribune, C, situate at the western end of the building, was quadrangular in plan, with its floor elevated above that of the portico. Steps at each side gave access to the tribune from the chambers or recesses adjoining, D. Small columns, of Corinthian character, separated the tribune from the portico; and, in addition to these, low screens or railings were doubtless fixed between them. Under the tribune was a subterranean chamber, supposed to have served as a cell, in which prisoners were temporarily confined. The staircase at E was used for ascent to the platform or roof over the portico of the forum, or to the gallery of the basilica, or, in all probability, for both purposes. With reference to the forms and construction of the roofs there are absolutely no data; but it appears, from the water drains provided all round the *media porticus*, that rain commonly found its way into the interior, either through openings above, probably between the *testudo* and the sloping roofs of the portico or gallery. Gell says, without, however, giving satisfactory authority for his statement:—"The principal roof rose above the rest of the building, and each end was finished with a pediment. This was surrounded at some distance by a wall, between which and the columns on each side was a low portico, and above the latter a gallery for the convenience of spectators. The roof over the gallery was formed to fall all round, from the wall *towards the centre*; its eaves being probably kept considerably below the architrave of the principal structure, for the admission of light between the capitals of the columns. The floor of the porticoes appears to have been made of cement: under the centre part earth only remains, with a channel against the columns, and holes at intervals, for the water to sink into wells or cisterns, formed beneath for its reception." These channels, Gell believes, received the water which fell direct from the roofs. It is somewhat difficult to understand, in connection with a building of such importance, and in which floor space was doubtless most valuable, an arrangement such as this writer describes. Why large quantities of water should have been thrown inwards, falling from high roofs and splashing into channels, to the discomfort of all in the building, cannot well be accounted for; whilst all could, with equal ease, have been thrown into drains outside the walls, and have been thus carried away without inconvenience to any one.

The basilica, at Trèves, built by Constantine, differs materially from that of Pompeii and the forms described by Vitruvius. It is very probably a type commonly adopted in the provincial towns where Roman customs predominated, and courts of justice were established. The building has undergone numerous alterations since the time of the Romans, to adapt it for different uses, and, accordingly, it is impossible to decide what its internal arrangements originally were. At the present day, it consists of a great nave, about 176 feet long by 85 feet wide, the walls of which rise to about 100 feet in height, and are pierced with two ranges of plain round arched windows. The great width of the nave, combined with the double tier of windows, would dispose one to believe that, originally, the interior had rows of columns forming a portico or ailes with a gallery over. No

trace whatever has been discovered of this arrangement; and, bearing in view that the tribune is of large dimensions (60 feet across the chord), much larger than would, in all probability, have been adopted had the building been divided by columns, we incline to the belief that it always was in the present form, that of a perfectly unencumbered hall. The building has four entrances at one end; and at the opposite end is projected the tribune, a semicircular apse, with two tiers of windows, ranging with those of the nave. The tribune is entered through a lofty arch,



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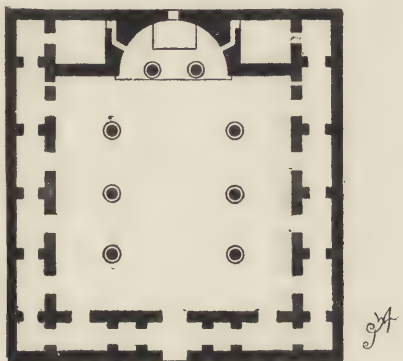
slightly less in width than the diameter of the apse. The plan of this interesting building is given in Fig. 5.

Remains discovered at Herculaneum, show the basilica there to have differed somewhat from the one at Pompeii. It appears to have had side porticoes only, with a space in front of the tribune walled off from the *media porticus*, and entered through three doorways. The tribune was of small dimensions and square in plan; on each side of it was a shallow segmental apse. The entrances appear to have been of considerable dignity, but all the arrangements cannot be satisfactorily made out.

A small square building was discovered at Otricoli, which is supposed to have been the basilica of the town, but opinions have differed on the subject, as might be expected.* To enable the student to form his own

* "Ce fut en 1775 que des fouilles ayant été faites sur l'emplacement de l'ancienne ville d'Otriculum, aujourd'hui *Otricoli*, située à dix lieues de Rome environ, sur les confins de la Sabine, on découvrit l'ensemble d'un petit édifice que sa disposition ne permettait pas de

opinion, we give a plan of the building in Fig. 6. From this it will be seen that a new feature appears in the passage (*cryptoporticus*) which surrounds the main portion of the building on three sides. In a building of such small dimensions, a passage of this description would prove a great convenience in giving ready access to all portions of the interior.



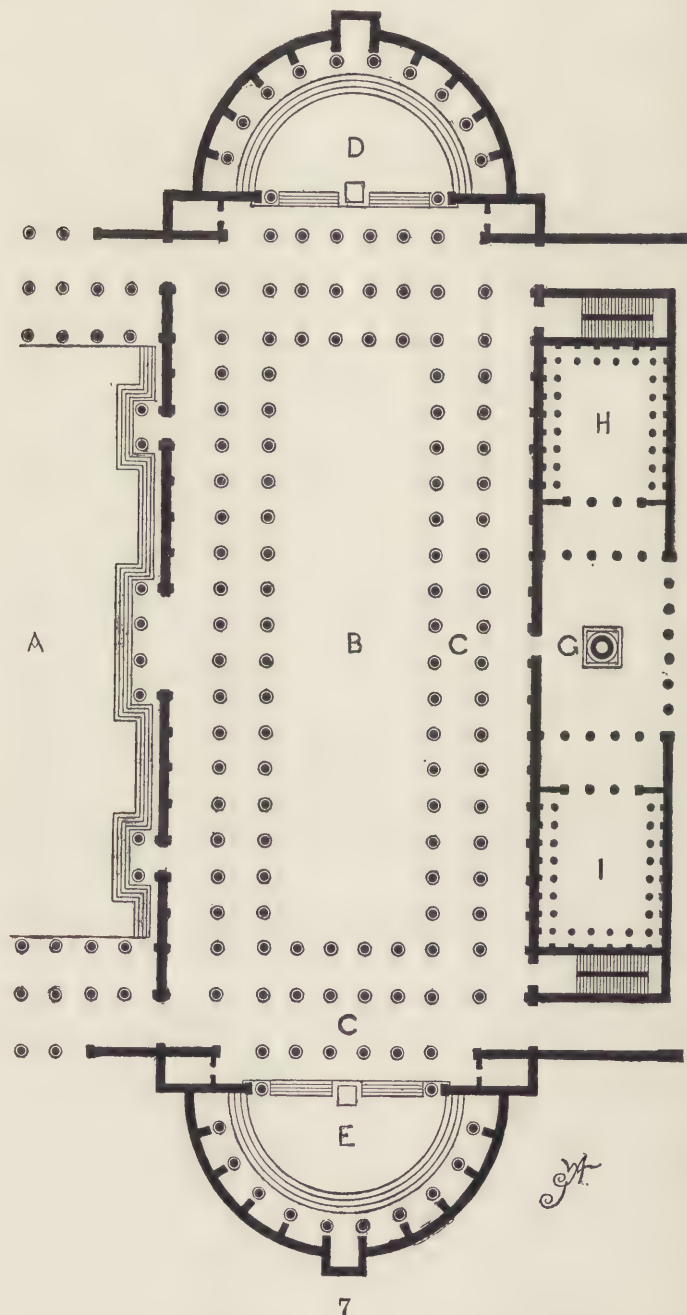
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We have now to speak of the most magnificent basilica known to have been erected by the ancients; we allude to the basilica Ulpia, built by Trajan as portion of his extensive forum, commenced after his return from the Dacian war, and completed about the year A.D. 114.* The remains of this basilica were first brought to light in 1812, under the direction of the Comte de Tournon, French prefect of Rome. The middle parts, excavated to some distance on each side of Trajan's column, indicate a building of large dimensions, divided by four rows of columns into a nave and double lateral porticoes, or ailes as they may properly be called in this case. The principal entrances are on the south, from the quadrangle of the forum, which here forms a spacious atrium to the basilica. The plan of the building restored, is given in Fig. 7; but the eastern and western portions with the two tribunes are purely conjectural;

considérer comme un temple, et dans lequel on crut reconnaître les signes distinctifs d'une basilique. On juge de quelle importance devait être une telle découverte, dans laquelle on espérait trouver la révélation d'un des principaux monuments de la civilisation antique; mais une analyse plus approfondie fit bientôt reconnaître combien la réalité était au-dessous de l'intérêt que ce monument avait d'abord inspiré, et il fallut presque renoncer à y voir une basilique; tant il était difficile, en la rapprochant de la description de Vitruve, d'y reconnaître même, quoique dans des proportions restreintes, les parties constitutives d'un tel édifice. On trouva dans l'intérieur plusieurs statues qui furent transportées au musée du Vatican, et quant à la ruine elle-même, elle est aujourd'hui envahie par la végétation, et c'est tout au plus si elle est reconnaissable. Les colonnes qui existaient lors de la découverte étaient d'ordre corinthien et de pierre de travertin."—L. Vaudoyer. *Monuments Anciens et Modernes*, vol. i.

* For a plan of the forum see article *Forum*.

neither extremity has been excavated, owing to being covered with modern buildings. The fortunate discovery of portions of the plan of ancient



Rome, as it was in the reigns of Severus and Caracalla, engraved on slabs of marble, has brought to light what appears to have been the form of the

western end of this basilica; two fragments evidently belonging to each other contain the letters "BASIL"—"VLPIA," a portion of the word basilica being broken away.* That two tribunes existed, as shown in the plan, is very doubtful; although the fact of the building being entered on the side, and not at one end as usual, and its occupying so important a position with reference to the forum, would incline one to be in favour of its symmetrical treatment. The building was unquestionably large enough for two courts to be held in it at one time. It is much to be regretted that circumstances prevent the entire site of this building being excavated; the most interesting parts are still hidden from view, along with the greater portions of the libraries and the porticoes of the forum.

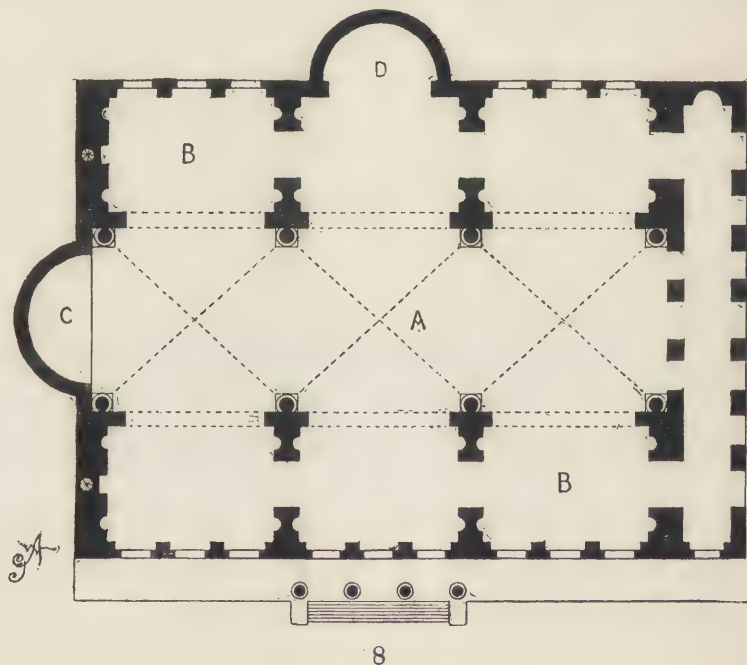
Internally, the building was about 180 feet in width, by probably about 380 feet in length, exclusive of the tribunes. The nave was about 87 feet wide. The columns, which divided the aisles from the nave and carried the flooring of the galleries, were of granite, about 35 feet high; above these were placed other columns which supported the roof. Light was probably admitted from numerous openings in the side walls. The nave is believed to have been covered with a semicircular ceiling, overlaid and richly decorated with bronze plates and ornaments, gilded. The total height is guessed at about 120 feet from the pavement to the highest point of the ceiling. Hübsch is decidedly of opinion that the portico and gallery only were roofed, the media porticus being left open to the sky. This view we are disinclined to accept, seeing no sound argument in its favour. Pausanias, the only ancient writer who mentions this basilica, speaks of its carpentry work of cedar, its ceilings of gilded bronze, and its rich covering of the same metal. A building of which only the minor portions were roofed would hardly have called forth such special notice of its magnificent ceilings—ceilings which must have struck the historian with astonishment.

On our plan, Fig. 7, A is the quadrangle of the forum; B the media porticus or nave of the basilica, surrounded by double porticoes or aisles,

* "Il existe dans le plan antique de Rome, gravé sur le marbre, un fragment qui porte le mot VLPIA, et qui appartient incontestablement au plan de la basilique Ulpienne. M. Morey, qui a fait un travail important sur le forum de Trajan, a été amené à supposer que cette portion de plan pourrait bien être le complément de celui sur lequel on voit gravé le mot BASIL, et que la partie sur laquelle on voit la suite de ce mot et celui EMIL, étant de restauration moderne, a dû être mal à propos rapprochée d'un fragment auquel elle n'appartient réellement pas. L'opinion de M. Morey n'est pas sans fondement, car il remarque judicieusement que, dans le plus petit des deux fragments, les lettres VLPIA sont exactement de la même grandeur que celles du mot BASIL, et se trouvent de plus parfaitement alignées avec celles-ci, quand on place les rangées de colonnes en face les unes des autres. Il résulterait de cette assertion, dans le cas où elle serait admise comme suffisamment fondée, que le plan antique sur lequel on avait cru jusqu'alors retrouver la basilique Emilienne, représenterait une partie importante de la basilique Ulpienne, celle où se trouvait le tribunal. Resteraient toutefois les colonnades à jour qu'on voit sur les côtés de la basilique, et qui ne s'accorderaient pas avec l'état réel des ruines, qui indiquent très-clairement un mur plein. Aussi, avons-nous cru devoir dire quelques mots sur cette question, mais sans avoir l'intention de la discuter, ni vouloir en tirer aucune conclusion. Car, quoi qu'il en soit, c'est toujours de ce renseignement qu'on doit s'aider pour la restauration du tribunal de la basilique Ulpienne."—L. Vaudoyer.

C; D the western tribune, towards the Capitoline hill; E the eastern tribune (the existence of which is very doubtful), towards the Quirinal; G Trajan's column; H the Greek library; and I the Latin library. Northwards of these stood the temple of Trajan, erected by Hadrian. (See general plan in article *Forum*). The arrangements of the eastern and western ends, as shown in our plan, must, as already explained, be accepted as conjectural; they are restored in various ways by different authorities. For instance, in Fig. 1, article *Apse*, will be found the restoration of the western end, according to the plan given by Mr. Fergusson,* which differs considerably from that we now give. The architect of all these magnificent buildings was a Greek, Apollodorus, of Damascus.

With a brief notice of one other important building we must conclude our observations on the ancient civil basilicæ. This is the basilica of Constantine; long and incorrectly termed the Temple of Peace, under the belief that it was the building erected by Vespasian, in the first century of our era, for the reception of the spoils brought by his son Titus from Jerusalem; but which has been satisfactorily identified by Nibby with the



basilica known to have been for the most part built by Maxentius, and subsequently finished by and named in honour of his rival and successor. The ruins of this large building are still in a state sufficiently complete to render its correct restoration a matter of little difficulty; indeed, the remains are so extensive as to form collectively the most conspicuous of all the ancient monuments of the Campo Vaccino.

* *Handbook of Architecture*, p. 318.

The basilica of Constantine was, in all probability, the most important example of the later or vaulted form adopted by the Roman architects. The nature of its covering, which demanded supports of great strength, capable of withstanding lateral thrusts, materially altered its plan from that which generally obtained in the basilicæ with timber roofs. It will be observed, on reference to the plan, Fig. 8, that the basilica consisted internally of a spacious nave, A, with lateral aisles, B, divided transversely by buttress-walls into six large compartments, opening into each other through arches constructed in the walls. The nave was covered with a semicircular intersecting vault in three divisions ; whilst the lateral compartments or aisles were covered, at a lower level, with semicircular vaults, running at right angles to the axis of the nave. The vault of the nave was about 83 feet span, and rose to about the height of 120 feet from the floor. The vaults of the compartments of the aisles were about 72 feet span. The soffits of these vaults were enriched with eight-sided coffers, constructed in the brickwork, and probably never plastered. Sir George Head, writing in 1849, says no trace of any coating of stucco then existed. The chief ornaments of the nave were eight columns of the Corinthian order, in white Porine marble, about 62 feet in height by about 17 feet 6 inches in circumference.* These carried entablatures of white marble, from which the main vault sprang.

The principal entrance to the building was by five openings in the eastern end, or that facing the Colosseum ; these were protected by a narrow vestibule running the entire width of the façade. A flight of steps gave access to the building from the Sacra Via. The chief tribune, C, was at the west end of the nave ; and a secondary one, D, was projected from the central division of the north aisle, opposite the small portico on the Sacra Via. No external covering was given to the vaults of this basilica beyond the usual coating of cement ; the vaults were true roofs, requiring no wooden coverings to protect them, as were invariably introduced in mediæval buildings.†

We feel that much more should have been said on the interesting subject of the ancient civil basilica ; but the very restricted limits of our Work render it impossible for us to treat such a subject exhaustively ;

* One of these columns remained standing until the year 1614, when it was removed by Pope Paul V., and placed in front of the basilica of St. Maria Maggiore, where it still stands supporting a figure of the Virgin.

† "The roofs of these halls had one peculiarity which it would have been well if the mediæval architects had copied, inasmuch as they were all honestly used as roofs without the necessity of being covered with others of wood, as all Gothic vaults unfortunately were. It is true this is perhaps one of the causes of their destruction, for, being only covered with cement, the rain wore away the surface, as must be inevitably the case with any composition of the sort exposed horizontally to the weather, and, that being gone, the moisture soon penetrated through the crevices of the masonry, and the stability of the vault inevitably became impaired. Still some of these have in Rome resisted for 15 centuries all the accidents of climate and decay, while there is not a Gothic vault of half their dimensions that would exist for a century after the removal of its wooden protection."—*Handbook of Architecture*.

more especially as considerable space will be required even for the most condensed treatment of matters relating to the ecclesiastical basilica—the subject which we now enter upon.

In the opening of the present article, we briefly touched upon the question which has exercised so many ecclesiologists, namely, the reason for the adoption by the early Christians of the term basilica for a church—a question upon which diversity of opinion still exists. It is quite obvious that prior to the conversion of Constantine (A.D. 312), no basilica could have been used for Christian worship. On this subject, Burgess justly remarks :—"Before the conversion of Constantine, the followers of Jesus were not permitted to erect buildings for the celebration of their worship ; they performed their rites in the dark recesses of the catacombs, or in private houses. The Christians did sometimes obtain, by special favour, the use of some building of no external appearance ; but they were not permitted to extend the dimensions, nor affect any imitation of the temples of the gods. Alexander Severus granted a sort of tavern 'for the Christian superstition,' the Taberna Meritoria, in the Transtiberine district ; the basilica of Sta. Maria in Trastevere, one of the seven of Rome, was erected upon the site, and is said to have been the first public edifice erected at Rome. It was no doubt under Constantine that this was effected, when the protection of the law was extended to Christianity."* Much in the same strain are the following words from our *Homilies* :—"Unto the time of Constantine, by the space of above three hundred years after our Saviour Christ, when christian religion was most pure, and indeed golden, Christians had but low and poor conventicles, and simple oratories, yea caves under the ground, called *Cryptæ*, where they, for fear of persecution, assembled secretly together. A figure whereof remaineth in the vaults which yet are builded under great churches, to put us in remembrance of the old state of the primitive church before Constantine : whereas in Constantine's time, and after him, were builded great and goodly temples for Christians, called *Basilicæ*, either for that the Greeks used to call all great and goodly places *Basilicas*, or for that the high and everlasting King, God and our Saviour Christ, was served in them."†

The question as to whether the existing civil basilicæ were commonly used for religious purposes or absolutely converted into Christian churches, after the conversion of Constantine, is undecided ; but we are firmly of opinion that all the existing basilicæ remained undisturbed, as courts of Justice, during his reign. The statement in Ausonius, made to the Emperor Gratianus Augustus :—"Basilica olim negotiis plena, nunc votis, votisque pro tua salute susceptis," seems, however, to clearly tell us that shortly after Constantine's death many of the civil basilicæ were either temporarily used as places of worship, or converted into permanent

* Paper read at the Royal Institute of British Architects, June 27th, 1853.

† Sermon against Peril of Idolatry, Part iii.

churches. With this reading of the passage Bingham agrees, as has already been shown. Texier remarks:—"The Christians, rapidly increasing in numbers, were still in want of churches; and upon the confiscation of the goods belonging to these *temples*, the lands and valuables with which they had been endowed were transferred to a newly constituted synod, and the converts were permitted to take possession of the edifices themselves for the purposes of their worship. Let us examine the truth of the statement that they also raised their altars in the Basilica—*Gerousia*—or court of justice. We know of but one instance in which the Roman basilica (the prototype of the churches of Constantine) was transformed into a church; this was in the case of the Licinian basilica at Rome, in which the Christians were accustomed to assemble; it was converted into a church in the year 370, by Pope Simplicius; but we can mention numerous temples still existing that were appropriated to Christian worship."*

The adoption of the term basilica by the early Christians must be accounted for on one of the three following grounds. Firstly, that shortly after the recognition of the Christian religion by Constantine, some of the existing civil basilicæ were converted into churches, retaining their common name, and handing it down, so to speak, to churches built in resemblance to them. Secondly, that the name basilica was simply given to a Christian church on account of the appropriate signification of the word—"palace of the great King," or "royal house." Or, thirdly, that the usual form of the pagan basilica was adopted as the best for the new Christian churches; and that it was simply on that account that the name basilica was considered appropriate, and was commonly given to them. It may, however, be readily allowed that if either the first or third was the original ground, the second could not help materially favouring the adoption of the name in the popular mind.

That the form of the Roman basilica—with its spacious nave, its lateral ailes, and its tribune, in which latter the curule chair of the praetor suggested the throne for the bishop, the hemicycle of seats, the appropriate place for the numerous presbyters, and the altar, on which the heathen poured out libations or offered incense to his gods, stood just where the Christian altar could most conveniently be placed—should have at once appeared the most appropriate and convenient one for a Christian church, cannot be wondered at by any student of architecture and ecclesiology; it would have been strange had another form suggested itself at the time. And, further, it is a fact worthy of notice that up to the present day no better general plan has been devised for a large church, with a ceremonial resembling that of the early Roman Church; whilst it is in all respects suitable to Protestant ritual.

The usual form and arrangements of the Christian basilica, in its most perfect development, may be briefly described as follows; premising, to

* *Byzantine Architecture*, by C. Texier, and R. P. Pullan, p. 79.

prevent any ambiguity, that the building is placed east and west, with the tribune and altar at the eastern end.* Beginning at the western end, the first portion is the atrium, entered through a projecting open porch, or anteportico (*propylon, prothyron, vestibulum*), of moderate dimensions, where all who desire to become members of the Church undergo their preliminary examination before being admitted, as mourners, within the walls. The atrium is a quadrangular court surrounded by a portico; or covered passage, the roof of which rests on the exterior wall, and, towards the internal open space, on an arcade or on an entablature supported by columns. The portico extending on the north, south, and west sides may be considered as strictly belonging to the atrium; that on the east side, of greater width than the others belonging usually to the second division of the basilica.† In the centre of the open space stands a fountain supplying a large basin with water, in which the people wash their hands before entering the narthex. Eusebius, in describing the basilica of Paulinus, at Tyre, says:—"Here he placed the symbols of the sacred purifications, by providing fountains built opposite the temple (nave), which, by the abundant effusion of their waters, afford the means of cleansing to those that proceed to the inner parts of the sanctuary." Amongst the several names given by ancient writers to this basin are *cantharus, phiala, phrear, embates, columbeion*, and *nymphæum*. The atrium is the portion of the sacred building set apart for the first class of penitents, called the mourners, who are not permitted to enter the narthex. In its portico these penitents stand to beg the prayers of those who pass through it on their way to the more sacred portions of the

* "To begin with their situation or posture. They were commonly so placed, as that the front or chief entrances were toward the west, and the sanctuary or altar-part toward the east; yet in some churches it was otherwise, as is evident from the observation made by Socrates, upon the church of Antioch, that it stood in a different posture from other churches, for the altar did not look toward the east, but toward the west.

† Ep. 12. ad Sever. (p. 151.) *Prospectus vero basilicæ non, ut usitatio mos est, Orientem spectat, sed ad domini mei Beati Felicis basilicam pertinet, memoriam ejus aspiciens.*

Which observation is also made by Paulinus Nolanus, upon one of his own structures. And the temple of the other Paulinus, at Tyre, seems to have stood the same way; for Eusebius describes the entrance to it, and not the altar-part, as fronting the rising sun. So that though the author of the Constitutions, among other rules of this nature, gives directions for building churches toward the east, yet it appears from these instances that the practice was not so universal but that it admitted of exceptions, as necessity or expediency required. Which observation has been made not only by Bishop Usher and Cardinal Bona, but, long before them, by Walafridus Strabo, who says, 'the Ancients were not nicely curious which way their churches stood, but yet the most usual custom was for Christians to pray toward the east, and therefore the greatest part of the churches were built with a respect to that custom.'—Bingham. *Works*, vol. iii., p. 53.

† "Between this porch and the church was a large *area* or *square plot* of ground, which Eusebius calls *αἶθριον*, and Paulus Silentarius *αἶθρον* in his Description of Sancta Sophia. The Latins term it *atrium* and *impluvium*, because it was a court open to the air without any covering, save only on each side of the square, which was surrounded with porticoes or cloisters, (*στοαί*, Eusebius calls them), and these built upon columns; whence, as Du Fresne observes, this place is called sometimes *τετράστυλον*, and *quadriporticus* in modern authors."—*Ibid.*, vol. iii., p. 55.

basilica. In one of the notes, just quoted from Bingham, the names given to the atrium by several ancient authors are to be found.

From the eastern ends of the portico, and from the central open space, archways give access to the narthex—the second portion of the basilica. It is right that we should mention, at this point, that in many basilicæ the portico of the atrium proper extended entirely round the four sides, hence its name *quadriporticus*;* and that a narthex, in addition, occupied the western portion of the interior of the basilica, being separated from the naos or nave by a wall or screen. (See *Narthex*.) The narthex is the place set apart for the energumens, and the order of catechumens called audientes or hearers, because they were permitted to hear the portion of the service which comprised the reading of the Psalms, the Epistle and Gospel, and the sermon by the preacher. On the conclusion of these the audientes were dismissed, having, as yet, no right to join in the prayers of the consistentes and communicants.

The third division, or naos of the basilica, is entered directly from the narthex by three doors, the centre one of which is larger and more richly ornamented than the others, and is termed the royal gate (Βασιλικῶν πυλῶν), or beautiful gate (ὡραία πυλή). These gates were commonly hung with curtains, which were drawn across them after the dismissal of the energumens and audientes. The nave is a parallelogram in plan, with lateral ailes (*embolus* or *circuitus*), divided from it by rows of columns. The ailes are spacious, one story in height, and lighted by windows placed high in the exterior walls. The columns of the nave carry arches and lofty walls, pierced with windows above the aile roofs. The roofs are entirely of timber, with flat ceilings. In some buildings the columns carried continuous entablatures, instead of arches; and the roofs were of open timber work, without ceilings or ornamentation of any description. The different portions of the nave and ailes, or what may collectively be termed the body of the basilica, are set apart for separate classes of worshippers. The north aile is for the women and the south aile for the men; whilst the western part of the body, generally, extending from the entrances to a greater or less distance inward, according to circumstances, is occupied by the third order of penitents, or *substrati*.† The remaining portions of the

* "Isidorus, *Orig.*, xv, 3, mentions that an atrium had an external cloister or portico on the three *exposed* sides, which observation has led to some confusion; when only three porticoes existed in the atrium or aule, the cloister would be called, as he notices, *triporticus*."—*Dict. of Arch.*, Arch. Pub. Soc., Lond.

† "For here, first of all, at the very entrance of the royal gates, in the lowest station of this part, behind the *ambo*, stood the *ὑποκείμενοι*, or *substrati*, the penitents of the third order, so called from the custom of prostrating themselves before the bishop or priest, as soon as the sermon was ended, to receive his benediction, with imposition of hands, and be made partakers of those prayers, which the congregation particularly offered to God for them; after which, they were obliged immediately to depart, before the communion-service. This sort of penitents are mentioned in the Council of Nice, though no particular place is assigned them; but we may collect from Tertullian and Sozomen, that their station was in this part of the church."—Bingham. *Works*, vol. iii., p. 65.

body, exclusive of the eastern portion of the nave occupied by the choir, are set apart for the fourth order of penitents, or *consistentes*, and those who enjoy the right of full communion.* The nave terminates, eastward, in a lofty arch, termed the arch of triumph (*arcus triumphalis*), beyond which is situated the *sacrarium* and *presbyterium*. Extending westward from the arch of triumph, a considerable distance into the nave, is a slightly raised platform (*chorus*), surrounded by low walls or screens (*cancelli*), and having at the north and south sides the ambones; that on the south being the more important, or Gospel ambo; that on the north, the lesser, or Epistle ambo.† (See *Ambo* or *Ambon*.) The rest of the furniture of the chorus or choir consists of the paschal-candlestick, ad-

* "In this part of the church, all the faithful, or such as were in the communion of the Church, had their place assigned them; and among them the fourth order of penitents, whom they called *consistentes*, because they were allowed to stay, and hear the prayers of the Church, after the catechumens and other penitents were dismissed; but yet they might not make their oblation, or participate of the sacrifice of the altar."—Bingham. *Works*, vol. iii., p. 69.

† In the early ages of the Church only one ambo appears to have been used; this was placed in a central position. It was commonly provided with a lower and a higher platform; from the former the Epistle was read by the subdeacon with his face towards the altar; from the latter the Gospel was read by the deacon, towards the nave. When two ambones were introduced they were placed one on each side of the choir. There is some uncertainty as to the side of the choir on which the Gospel ambo was usually placed. Speaking of the side of the altar on which the Gospel should be read, Walcott says:—"In St. Augustine's time the Gospel was read on the north side, in allusion to the prophetic verse, Jer. iii. 12; and the old sacramentaries added, because it is preached to those cold in faith; but at Rome, because the men sat on the south side and the women on the north, the deacon turned to the former. The *Gemma Animæ* speaks of reading from the north side as a new custom, but it is prescribed by the use of Hereford and Seville. In some parts of England, however, the south side was still observed as late as the fifteenth century." In certain churches, in Rome, we find the Gospel ambo placed in opposite positions with reference to the altar. In St. Maria, in Cosmedin, and St. Lorenzo fuori le mura, the Gospel ambo is on the right hand of a person looking towards the altar, no doubt the usual position in the early arrangement of the basilica when the priest celebrated with his face towards the nave. In the interesting basilica of St. Clemente, however, we find the Gospel ambo on the left hand side. It is believed that this mistake was made when the present choir fittings were removed from the lower church and erected where they now stand. Speaking of the ambones in St. Clemente, Webb remarks:—"I am at a loss how to designate the ambones; for one is told on the spot, (and so they are lettered in the plates to Bünsen's *Basiliken*.) that the one to the right of a spectator looking towards the apse is the Gospel ambon, and that to the left the Epistle ambon: that is to say, the two ambones are rightly described according to the actual direction of the altar, which faces west. But I cannot help thinking that this is a mistake, and that although the altar faces west, yet the ambones are meant to be used as they would be if the altar faced east. My reason will be seen when I describe the ambones. The one to the north (ecclesiologically), which I think the Gospel one, is an octagonal pulpit, open on both sides, and approached on each side by steps. As there is no desk it may have been used facing either north or south. These double steps seem to allow of more than one person ascending, which is only necessary for the Gospel. Besides which there is the great paschal-candlestick, an elegant and lofty spiral column of mosaic work, forming as it were part of the design of this ambon. Whereas the opposite ambon is a square pulpit with a book-desk facing east, and only large enough for one. An unexplained part of this ambon is a second desk, at the bottom of the stairs, facing due west." The basilica of St. Clemente has its apse nearly towards the north-west; its true Gospel ambo is accordingly towards the south-west.

joining the Gospel ambo, and the seats for the inferior clergy, sub-deacons, and readers. The chorus is entered from the nave by a gate in its western wall, and by two lateral entrances adjoining the piers of the arch of triumph.

Several steps, within the triumphal arch, lead up to the fourth great division of the basilica, the sacrarium or bema. In the centre, within the arch, and under the level of the sacrarium floor, is placed the confession.* Directly over this is the altar, elevated on a foot-pace, and enclosed by a ciborium surrounded with hangings. The altar is approached on the east side, the priest celebrating with his face towards the nave. Behind the altar, and projected eastward from the end wall of the basilica, is the tribune, in the form of a semicircular apse, covered with a semi-dome, richly decorated with mosaic.† In the centre of the tribune, against the wall, is placed an elevated seat, the bishop's throne, or cathedra. This is richly ornamented, and approached by a flight of steps. From it the bishop commands the view of the sacrarium, choir, and nave. On each side, but at a lower level, are ranged against the semicircular wall the seats of the presbyters. St. Gregory Nazianzen alludes to this arrangement in speaking of himself, as bishop, "sitting upon the high throne, with the presbyters on lower seats round about on both sides." Several existing examples, as will be seen further on, satisfactorily prove this arrangement to have been universal in both the eastern and western Churches. Such a disposition of the sacrarium, with its altar and presbyterium, is clearly alluded to by Eusebius in concluding his brief panegyric on the basilica built by Paulinus, at Tyre:—"For when he had thus completed the temple, he also adorned

* "Martyrdom, or memorial to a saint; a tomb beneath an altar, containing a window, called the jugulum, or cataract, through which the pilgrim let down a cloth (called the pall, brandeum, sudary, or sanctuary), to touch the body of the sleeper. It was surrounded by a screen of perforated marble, or a rail of bronze, and was often closed in with pillars, covered with metal plates, and illuminated by lights and candelabra. The true confession was the germ of the crypt; in old St. Peter's it formed a subterranean chapel of St. Peter."—Walcott. *Sacred Archaeology*, p. 176. (See *Confession*.)

† "At the upper end of the chancel was commonly a semicircular building, which from the figure and position of it is by some authors called *apsis*, and *exedra*, and *conchula bematis*: for these are words that signify any *arched* or *spherical* building, like the canopy of heaven, to which St. Jerom applies the name of *apsis*. It was called *concha*, because in figure it resembled something the fashion of a *shell*, as Du Fresne shows out of Procopius and Paulus Silentiarius and Paulinus and other writers. Du Fresne thinks it is also called *exedra* by St. Austin, who says the conference between the Catholics and Emeritus, the Donatist bishop, was held in the *exedra* of the church; which he interprets the place where the bishop and presbyters had their usual residence in the upper end of the *bema* beyond the altar. But Valesius and other learned men take *exedra* here, in the common sense, for one of the outer buildings of the church. And it is not easy to determine so nice a controversy between them. However this is certain, that the bishop's throne, with the thrones of his presbyters on each side of it, were always fixed in this part of the church, in a semicircle above the altar. For anciently the seats of the bishop and presbyters were joined together, and all called *thrones*, as is evident from Eusebius's description of the temple of Paulinus, who says 'he adorned it with thrones set on high for the honour of the presidents or rulers of the people;' that is, the bishop and presbyters together."—Bingham. *Works*, vol. iii., p. 86.

it with *lofty thrones*, in honour of those who preside, and also with seats decently arranged in order throughout the whole, and at last placed the holy altar in the middle. And that this again might be inaccessible to the multitude, he enclosed it with frame lattice-work, accurately wrought with ingenious sculpture, presenting an admirable sight to the beholders. And not even the pavement was neglected by him, for this, too, he splendidly adorned with marble."

On each side of the tribune is an apartment, or recess, in the form of an apse, used by those who officiate at the celebration. That on the right of the altar, or north side of the sacrum, is the prothesis, or chapel of the credence, also termed the *oblationarium*, *paratorium*, *secretarium*, and *corban*; sometimes it was called *gazophylakion* by the Greeks, although the term was more correctly applied to one of the *exedræ*, namely, the treasury for the reception of the offerings of the people. Paulinus tells us that the prothesis "is the place where the holy food is deposited, and whence we take provision and furniture for the altar;" and that it "was the place which prepared the host, or oblation of joy, for the priest."¹ The other recess, on the left of the altar, is the *diaconicum minus*, called by the Greeks *skeuophylakion*. This is a sort of vestry or sacristy, in which the deacons prepare the holy vessels for the celebration of the Eucharist, charge the censers with incense, and get ready the vestments for the celebrant and others. Here also the sacred vessels and vestments are kept. In both the prothesis and *diaconicum minus* are placed small altars, adjoining their eastern walls.²

Shortly after the conversion of Constantine, and immediately on the establishment of Christianity in popular favor and under imperial protection, the erection of churches was commenced with great enthusiasm, Constantine himself setting a noble example by his activity and generosity. The more important churches appear all to have been of the basilican type, their plans and construction differing very slightly from those of the civil basilicæ.

In essaying a brief description of the more important Christian basilicæ, erected from the time of Constantine, the obvious starting point is the Basilica Constantiniana—St. Giovanni in Laterano—probably one of the most celebrated churches ever erected.³ Constantine not only caused it to

¹ Bingham's *Works*, vol. iii., p. 114. (New Edition, Oxford, 1855.)

² Speaking of the *diaconicum minus*, Bingham remarks:—"Here the priests also put on their robes they used to officiate in; and hither they came again, when the public service was ended, to make their private addresses to God. . . . The deacons commonly had the care of this place, and thence it is often called the *diaconicum*, and *bematis diaconicum*, to distinguish it from another *diaconicum*, which we shall find among the *exedræ*, or outer buildings of the church."

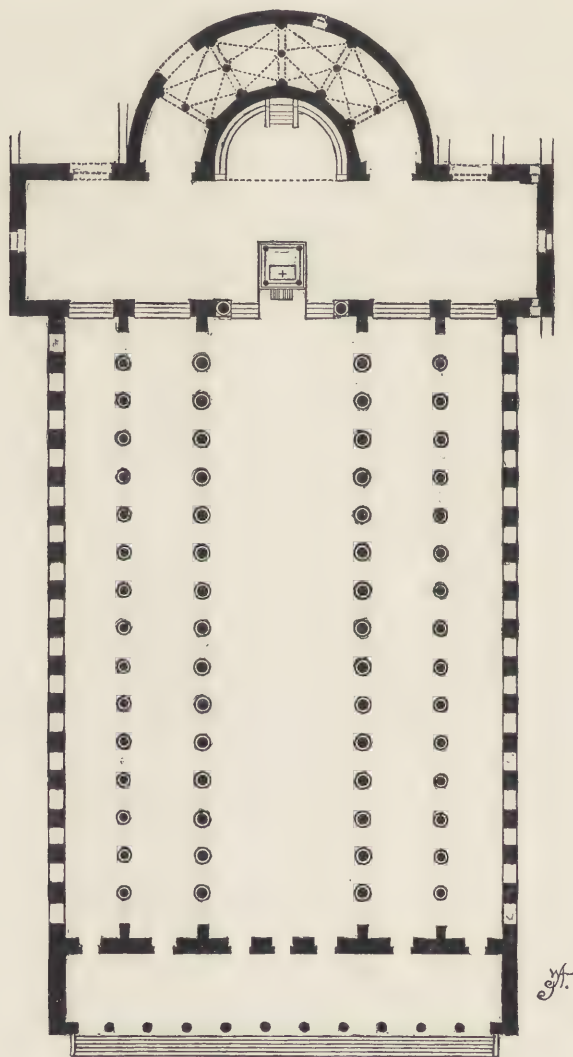
³ "This celebrated basilica, dedicated to the two saints conjointly, S. John the Baptist and S. John the Evangelist, and styled even to the present day, without disparagement it is to be presumed of S. Peter's, '*omnium urbis et orbis ecclesiarum mater et caput*,' was built by Constantine, and conferred on the then bishop of Rome, S. Sylvester, as his episcopal

be built, at the instigation of St. Sylvester, but is said to have put his own hands to the work, by digging in the foundations along with the other workmen. Unfortunately all details belonging to the original building are of the most unsatisfactory character; and it is accordingly difficult to restore the plan with any degree of accuracy. The basilica was partly destroyed by a conflagration in the pontificate of Clement V. (1305-1314); but even at that time it had undergone restoration and alterations by Adrian I. (772-795), Sergius III. (905-911), and Nicholas IV. (1288-1294). It was almost rebuilt by Clement V.; altered and embellished by Urban V. (1362-1370), Alexander VI. (1492-1503), Pius IV. (1559-1566), and Sixtus V. (1585-1590); and enlarged in its transept and aisles by Clement VIII. (1592-1605). In 1644, under Innocent X., Borromini built the present clumsy piers round the granite columns of the nave, and otherwise loaded the interior with tasteless ornaments. And lastly, in 1734, Clement XII. erected the façade from the designs of Galilei. From these facts it may gathered how little of Constantine's work is to be looked for. To attempt any description of the original building would be out of place; beyond what relates to its general plan all is pure speculation. In Fig. 9 is the plan of the basilica as given by Hübsch, in *Monuments de l'Architecture Chrétienne*. It is certainly not the original disposition so far as its tribune is concerned. This portion, with its ambulatory, appears to have been the design of Nicholas IV., in the end of the thirteenth century, retained by Clement V. There is little doubt that the body, with its nave and four aisles, and the porticus or narthex, as shown on the plan, are in the original form.

The next basilica which, in proper order, comes before us is the great one erected by Constantine, at Rome, and dedicated to St. Peter. This building was constructed about the year A.D. 330, adjoining the circus of Nero, which, according to Church tradition, was the place where St. Peter and other early saints suffered martyrdom. The basilica was placed with its tribune at the western end and its atrium at the eastern, the direction retained in the present church of St. Peter, which was erected directly over the site of Constantine's basilica. The atrium (see plan, Fig. 6, in article *Atrium*) consisted of a quadrangular enclosure, measuring from east to west (including the narthex) about 256 feet, and from

cathedral; since which period the consecration of the bishops of Rome, and coronation of the popes, who invariably on being elevated to the pontifical chair take formal possession of St. John Lateran, have continued to be celebrated there without intermission. The site chosen for the edifice was a spot previously occupied by the house of a Roman senator, Plautius Lateranus, who, suspected of being engaged in the conspiracy of Piso against Nero, was dragged without trial or preparation to the place of execution, where he was immediately beheaded; and from this personage, who, however he might have been otherwise identified by word or deed with the interests of the Christian church does not so clearly appear, the name of Lateran has at all events ever since been attached to a basilica rendered particularly renowned throughout Christendom by the number of general and provincial councils that have been held within its walls, that is to say, five general, and seven provincial."—Sir G. Head, *Rome*, vol. ii., p. 248.

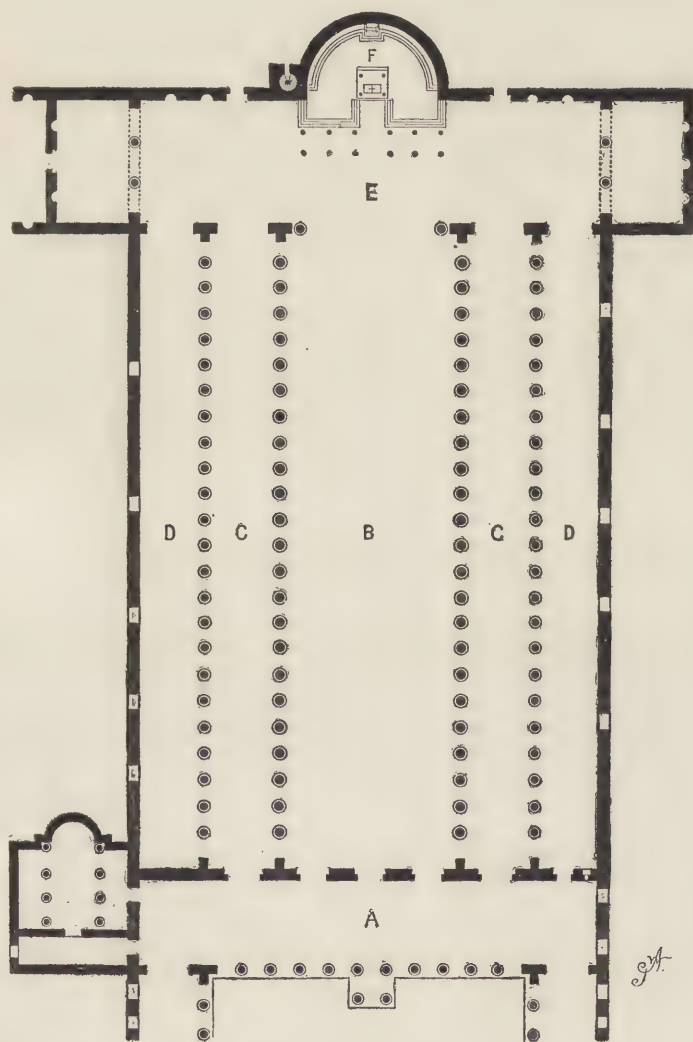
north to south about 206 feet. A portico extended round three sides, and joined a wider portico, or narthex, in front of the basilica. A range of important buildings extended along and somewhat beyond the eastern side of the atrium, the central portion forming the great porch (*vestibulum magnum*). From these buildings rose two bell-towers, of later date than



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the atrium. The body of the basilica was entered directly from the narthex, A, Fig. 10, by six doors. The body of the building, measuring internally about 288 feet in length by about 206 in width, was divided by four rows of columns into a nave and four aisles. The nave, B, was about 75 feet in width; and two rows of antique Corinthian columns, about

35 feet high, divided it from the inner aisles. These columns were partly of granite and partly of marble; and being derived from several earlier buildings, were not all alike in treatment. They carried massive entablatures, the cornices of which projected sufficiently far from the walls to form narrow galleries. The walls of the nave rose to about the



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height of 113 feet from the floor, where they supported the roof, with its richly coffered and decorated horizontal ceiling of wood. The walls were pierced with large round-arched clerestory windows, underneath which were two ranges of panels for the reception of paintings or mosaics. The columns which divided the inner from the outer aisles were considerably

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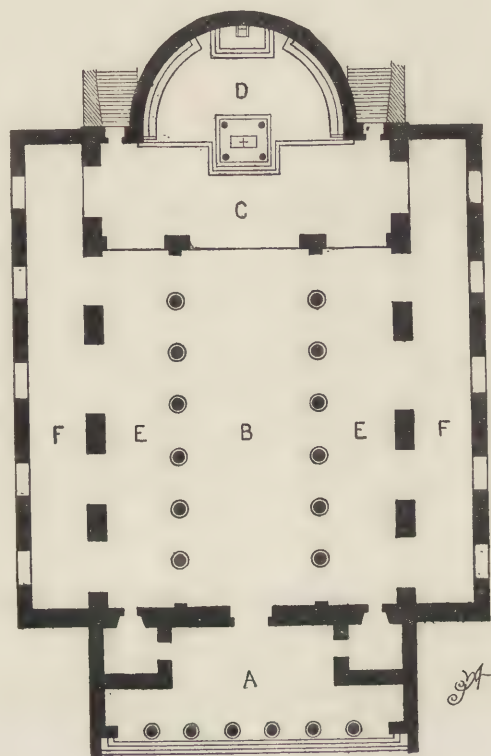
less than those of the nave colonnades; they were elevated on pedestals, and carried arches instead of horizontal entablatures. By these expedients the desired height was obtained. The inner ailes, C, were covered with open timber roofs only, whilst the outer ailes, D, had semicircular vaults under their roofs. Windows at intervals in the aile walls gave sufficient light for all requirements in those portions of the interior.

At the west end of the nave, extending north and south somewhat beyond the width of the body, was the sacrarium or bema, E, a species of transept, about 55 feet wide, and of the same height as the nave. The nave and ailes communicated with the sacrarium through five arches; that of the nave—the arch of triumph—being about 96 feet high, and springing from entablatures supported on two columns about 49 feet in height. Directly opposite the nave, in the west wall, was the tribune, F, a semicircular apse of the same width and height as the arch of triumph. The floor of the tribune or presbyterium was carried forward about nine feet into the sacrarium; and was elevated above its floor and approached therefrom by steps on each side of the confession. The pontifical throne was placed in the centre of the apse, against the wall; and on each side were the seats of the cardinals and other dignitaries of the Church. In the centre, near the chord of the apse, stood the high altar under a magnificent silver ciborium; and immediately under it was the confession, a subterranean chapel dedicated to St. Peter and containing his sarcophagus. In front of all, and extending the width of the presbyterium, were placed twelve beautiful columns of marble, in two rows, and connected together by a richly decorated entablature. These columns are stated to have been brought from the temple at Jerusalem; but were more probably taken from some fine early Greek building.* The dimensions and exact disposition of the original choir are not known; but it is understood to have extended some distance into the nave; and to have been a raised platform enclosed with wood railings or screens. This interesting basilica underwent many alterations and repairs between its erection, under Constantine, and its destruction, in the beginning of the sixteenth century, to make way for the new church of St. Peter.

Before proceeding to speak of works of greater importance, we may here say a few words with reference to the basilica of St. Croce in Gerusalemme. This comparatively small basilica was founded by Constantine, in 331, at the request of his saintly mother, Helena, for the purpose of enshrining the remains of the true cross, found, according to Church tradition, by her during a special pilgrimage to Jerusalem. It is also stated that earth was carried from the spot in which the cross was found and mixed with that in the foundations of the building. In Fig. 11 is given the plan of this basilica, in what is presumed to be its original state. A is the portico or narthex; B the nave; E the inner ailes, which are believed to have had

* For some further remarks on these columns and their arrangement, see article *Apsæ*, vol. i., p. 228.

galleries over them, probably for female worshippers; F the outer ailes or ambulatories, entered from the inner ailes by arches; C is the sacrarium; and D the tribune, with the altar, under a ciborium, at the chord, and with the bishop's throne and seats for the clergy in the usual position,



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against the semicircular wall. Like St. Giovanni in Laterano, this early basilica has been altered to such a degree as to render it impossible to make out its primitive arrangement with any certainty. It was thoroughly repaired by Gregory II. (715-731), and afterwards underwent frequent alterations by successive Popes, until it was reduced to its present form by Benedict XIV. (1740-1758).*

In writing the present portion of this article we meet difficulties at every turn; for we have little to do with the appearance of the Christian basilicæ as they now exist, after numerous alterations, additions, and so-called restorations; it is our task, on the contrary, to set aside all such modifications, and to endeavour to make out the primitive arrangements. In such a case as the basilica of the Lateran this task is almost if not quite a

* Sections of this building in its present state, and also what is presumed to have been its original form are given in *Monuments de l'Architecture Chrétienne*. Pl. xxx.

hopeless one. In that of the ancient basilica of St. Peter better materials exist; for, although all traces of the building have been swept away, drawings and descriptions have been handed down which enable us to arrive at satisfactory, if not perfectly accurate, conclusions on all essential details. And now, with reference to the next basilica which comes before us, in the order of its foundation, difficulties again surround us. In the year 352, Pope Liberius founded the basilica of St. Maria ad Nives, now known as the Basilica Liberiana, or St. Maria Maggiore*: and it is stated that in the following century it was rebuilt or enlarged by Sixtus III. (432-440). It is understood not to have been altered in general plan since the latter date; but even allowing that to be the case, we have to decide whether the plan may be considered as belonging to the first age of Christian basilica building or to one about a century later. As it differs from the other important fourth century basilicæ, of Rome, in only having two aisles instead of four, it would be interesting to be able to fix its date. We are strongly inclined to believe that Sixtus III. would not, either in enlarging or entirely rebuilding the basilica, alter its plan to any material extent. It certainly would be a peculiar method of enlarging such a building to remove two aisles, unless, of course, the enlargement was confined to the nave. Under any circumstances we may reasonably look upon the present plan of the nave and aisles as that adopted in the original building of Liberius.† With reference to the plan of the sacrum and presbytery

* "On a spot supposed to be not far removed from an ancient temple of Juno Lucina, the church was originally built in the year 352 by the bishop of Rome, Liberius, who, it is said, dreamt on the night of the 4th of August a miraculous dream, in which, by Divine intimation conveyed to him in his sleep, a fall of snow was predicted on the next day on the Esquiline, to an extent limited to the precise ground-plan of the basilica which he was directed to build. And not only, as the circumstances are recorded by the legends of the Roman Church, did the snow actually fall on the next morning, the 5th of August, precisely according to the manner and conditions above stated, but the very same dream was also dreamt by another eminent personage, of whom, notwithstanding, no farther accounts have been handed down to posterity than that he was a patrician, and his baptismal name 'Johannes.' Liberius, accordingly, immediately set about the building of the basilica, of which the title for many centuries was, in consequence of the miracle of the snow, '*S. Maria ad Nives*,' and also after the name of Liberius it was called *Basilica Liberiana*; subsequently it received the epithet '*Maggiore*,' on account of being the largest of the numerous churches in Rome dedicated to the Holy Virgin, notwithstanding that its rank among the seven basilicas falls after S. John Lateran, and consequently stands third after S. Peter: it is governed by a chapter of canons, among whom the principal is a cardinal."—Sir G. Head. *Rome*, vol. ii., p. 352.

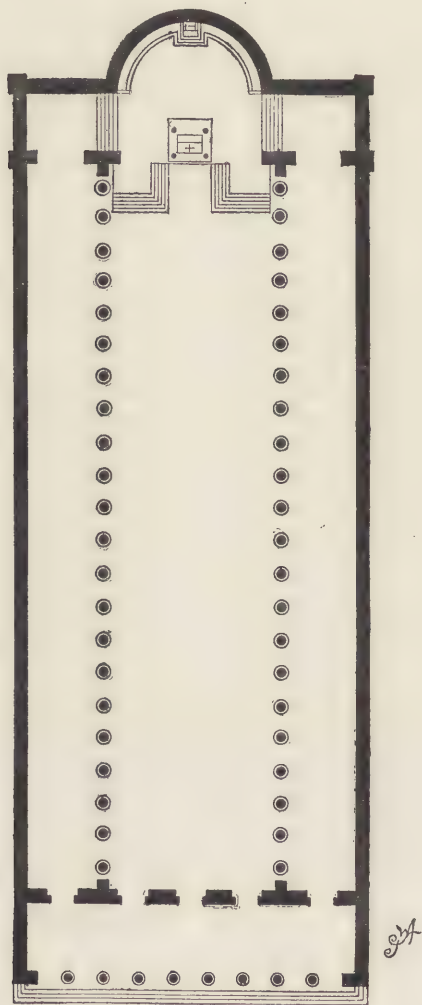
† What Hübsch says on this subject may not be without interest here:—"Anastase le Bibliothécaire, après avoir rapporté ce fait dans la vie de saint Libère, raconte dans celle de saint Sixte III. (432-440) que ce pontife fit rebâtir la basilique Libérienne. On en inféra que ce dernier créa un édifice entièrement neuf et de plus grande étendue que le premier. Nous ne partageons pas ce sentiment. Il n'est pas probable, en effet, qu'après 70 ou 80 ans, cette basilique ait été déjà ruineuse au point de nécessiter une totale reconstruction. Une église aussi opulente, où l'on trouve 44 colonnes antiques de beau marbre blanc, en tout pareilles et de fortes dimensions, était plus facile à faire au *v^e* siècle qu'au *vi^e*, où la ville était grandement déchue, et où il devait être bien difficile, après la longue série de sanctuaires élevés sur les tombes des martyrs dans Rome et hors de Rome, de trouver un si grand choix de colonnes antiques de proportions égales. Il existe à Rome, il est vrai, deux autres basiliques de la première moitié du *v^e* siècle, l'une pourvue de 24 et l'autre de 20 colonnes

there is more uncertainty, for it was here, in all probability, that the enlargement or the so-called rebuilding by Sixtus III. took place. There is nothing, however, in the disposition of these portions to cause them to appear novel or out of place in a fourth century plan. The transeptal sacrum, with the presbyterium projected, in the form of a semicircular apse, opposite the nave, existed in the earlier basilica of St. Peter, and the same arrangement obtained in the fourth century in the Basilica Sessoriana, or St. Croce in Gerusalemme, and in the basilica of St. Paolo fuori le Mura.

In Fig. 12 is given the plan of St. Maria Maggiore, in its ancient form as left by Sixtus III. It is that of a medium-sized basilica of the greatest simplicity. This is another of the churches of Rome which does not orientate correctly; its altar end is towards the north-west. At the south-east end is a porticus or narthex, communicating with the interior by five doors; the body of the basilica consists of a nave, about 53 feet wide by about 230 feet long, with a single aisle on each side, making a total internal width of about 105 feet. The columns which divide the nave and aisles are of the Ionic order, of white Hymettian marble, believed to have originally belonged to the temple of Juno Lucina, which stood, according to the opinion of certain antiquaries, in the immediate neighbourhood. The columns, twenty-two on each side, are shown on the plan as they originally stood; at the present day their regular arrangement is disturbed and their number reduced by the construction of two arches, as entrances to the Borghese and Sixtine chapels. The columns support horizontal entablatures, upon which the clerestory walls are built. At the north-west end of the nave is the sacrum, in the form of a transept, which does not extend beyond the width of the body; it is entered from the nave and aisles by three arches; that of the nave being, as usual, the arch of triumph. The presbyterium is a semicircular apse, nearly as wide as the

antiques, parfaitement semblables. . . Une preuve péremptoire de l'époque de fondation de Sainte-Marie-Majeure, nous la trouvons dans les murs de la nef principale, conservés jusqu'à la hauteur de la corniche. Il est facile de les examiner sur les combles des bâtiments latéraux. MM. les archéologues ne semblent pas l'avoir fait jusqu'ici. Une maçonnerie de briques très-soignée et l'emploi de briques cunéiformes longues et régulières aux arcs des grandes ouvertures obligent à assigner au monument le iv^e et non le v^e siècle. Le transept est sans doute d'une époque bien moins reculée; la partie nord, qui est munie d'un contrefort de grande saillie, peut être examinée d'une petite cour où l'on entre. Le clocher est encore moins ancien. Les murs d'enceinte des collatéraux, primitivement dégagés et garnis d'ouvertures, sont complètement cachés par des chapelles et des bâtiments modernes. L'ancien vestibule, que je fais figurer dans le plan, a été remplacé par un nouveau, adossé au mur frontal. . . L'arc triomphal, avec ses mosaïques primitives, s'est conservé; mais l'abside actuelle date de moins loin, et le transept entre l'abside et l'arc triomphal a été muré plus tard sur les deux côtés, comme on l'a dit. En outre, lorsque Sixte V. fit établir dans les collatéraux, près de l'arc triomphal, les deux magnifiques chapelles actuelles, on supprima de chaque côté les deux colonnes les plus rapprochées du chœur, afin d'obtenir pour chaque chapelle une grande entrée. Les voûtes des nefs latérales sont d'une époque postérieure. Il est probable que ces deux nefs étaient dans le principe plafonnées de bois, comme celle du milieu. Les plafonds de la première période chrétienne étaient richement lambrissés de caissons et dorés, comme le plafond actuel de Sainte-Marie-Majeure, qui remonte au xv^e siècle, et comme le furent en général les sanctuaires de la période Constantinienne."

nave ; here the pontifical throne occupies the usual central position, with the seats for the clergy on each side. The floor of the presbyterium is raised six steps above that of the transept, and is carried forward, on one



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level, across the latter, and some distance into the nave, at both sides. The altar, under a ciborium, stands within the arch of triumph.

The apse is covered with a semi-dome ; at the present day retaining its thirteenth century mosaics. This part of the basilica is believed to have been rebuilt or restored by Nicholas IV. (1288-1292) ; and the mosaics of the semi-dome were executed by Jacopo da Turita (1295). The chief subject is the coronation of the Virgin, in which our Lord is represented enthroned, with the Virgin on His right hand. The figures are enclosed

in a circular blue gold-starred aureole, which is surmounted with a flowing design of foliage and birds: angels are introduced below in the act of adoration. Underneath all is represented the Jordan, with small river-gods, boats, men, and animals; at the sides are figures of the SS. Peter, Paul, John the Baptist, John the Evangelist, Francis, and Anthony. On the wall of the apse are five subjects from the life of the Virgin. The mosaics over the arch of triumph are believed to be of the time of Sixtus III. Speaking of these, Mr. Parker remarks:—"These mosaics are referred to in a letter from Pope Hadrian to Charles the Great, as then ancient, not as new. The name of Pope Sixtus III., A.D. 432-440, is on the top of the arch, and seems to apply to the whole twenty-seven original pictures that remain. A considerable part of them still exists in fair preservation, comprising two ranges of pictures over the columns of the nave, with subjects from the Old Testament; and on the arch over the tribune, called the arch of triumph, are subjects from the New Testament, in five rows; in the lowest are lambs, over these the two holy cities, Jerusalem and Bethlehem. In the centre, over the arch, is a round medallion, supported by S. Peter and S. Paul, and the emblems of the four Evangelists; on the north side in this upper row is the 'Annunciation,' and on the south the 'Presentation in the Temple.' On the medallion is represented the throne of God richly ornamented with jewels; at the back is a cross and a circle or crown, and on the seat the book with the seven seals; at the end of the arms of the chair, or throne, are small medallions, with busts of S. Peter and S. Paul. Under the throne is the inscription SIXTUS EPISCOPUS PLEBIS DEI. In the second range is the Adoration of the Magi, and the Child Jesus in the midst of the Doctors. The third range is occupied entirely by the Massacre of the Innocents, merely divided by the arch."*

The existing ceiling of the nave was designed by Sangallo; it is flat and boldly coffered. The walls between it and the entablatures of the colonnades are enriched with fluted pilasters of the Corinthian order, between which are the clerestory windows, with ornamental panels under them. These enrichments are of the same late date as the ceiling, and the work of the same architect. In the original design the walls of the nave were plain, and intended for the reception of mosaics similar to those which still exist on the arch of triumph.

We now come to the basilica, which, previous to the disastrous fire in 1823, was one of the most interesting churches in Christendom to the architect and ecclesiologist. It was the least injured or altered of all the ancient churches of Rome, and the most perfect example of the early basilica. St. Paolo fuori le Mura was truly a treasure-house of Christian antiquities. Sir George Head so ably epitomises all that is known of the history of this basilica, that we cannot do better than give his remarks here:—

"The Basilica di S. Paolo is supposed to owe its origin to the bishop of Rome, S.

* *Archæology of Rome*, Part xi., p. 14.

Silvester, who prevailed on the emperor Constantine to erect it on ground the property of the Roman matron, S. Lucina, adjacent to the Christian cemetery belonging to that personage. At all events there is said to be at present in existence in the archives of the Vatican a document of the fourth century, namely, a rescript of the emperor Valentinian II, conveying an order to the prefect of Rome, Sallustius, to rebuild and extend the structure on a scale of considerably increased magnitude, which operation was then commenced accordingly, and was completed afterwards, about the year 400, by Honorius.* The emperor Valentinian III., in the year 438, contributed a confessional of pure silver, and the basilica was subsequently restored and repaired by various pontiffs, whose names, which appear to have been recorded with more than usual regularity, are principally as follow, viz.: Leo I., who was created bishop in 440, ornamented with mosaic one of the main arches, which had been destroyed by fire; he also replaced a large quantity of the silver carried away by the barbarians. Hilarus, about the year 461, contributed liberally to the restoration of the sacred utensils. The bishop Symmachus, created in 498, rebuilt the principal absis or tribune, ornamented with paintings the vaulted ceiling in rear of the confessional, and constructed, for the convenience of females of distinction, a gallery, of the same description that has been referred to in the instance of the churches of S. Clemente, and S. Agnese fuori le mura; the title 'matroneo' appears to have been applied to the one in question by the Italian ecclesiastics. Symmachus also repaired a flight of steps at the entrance of the basilica, restored the cantharus in the atrium, and thence conducted water to the baptismal basin in the rear of the main absis. The names of the bishops Ormisda and John I. are also mentioned as restorers of the edifice between the years 514 and 526. A few years afterwards the basilica is distinctly alluded to by Procopius in the following terms: 'ἔστι δὲ τις νεὸς Παύλου τοῦ ἀποστόλου, Ρώμης τοῦ περιβόλου τέσσαρας καὶ δέκα σταδίου ἀπέχων. Ὁ τε ποταμὸς αὐτὸν παραρρεῖ Τιβέρις.' Dono I., who was created bishop in the year 676, effected a restoration of the edifice, which, although at the same time he conferred upon it a new dedication, accompanied with an imposing ceremonial, does not appear to have been perfect, for it is recorded that not more than fourteen years afterwards, viz., in 690, Sergius I. again repaired the roof and replaced the old beams by others from Calabria. In the year 701 important additions to the valuables and decorations were made by John VI. About the year 720 the Calabrian beams gave way and the roof fell upon the pavement, damaging by its fall the high altar and its silver ciborium; all which dilapidations were repaired by Gregory II. and his successor Gregory III., before the year 731. Stephen IV. in 770, and Adrian I. in 780, contributed embellishments to the interior, and the latter pontiff especially effected some restoration to a portico, which is also referred to by Procopius, a few lines after the passage above quoted, and of which there are, it is said, proofs of the existence up to the tenth century; it is stated to have

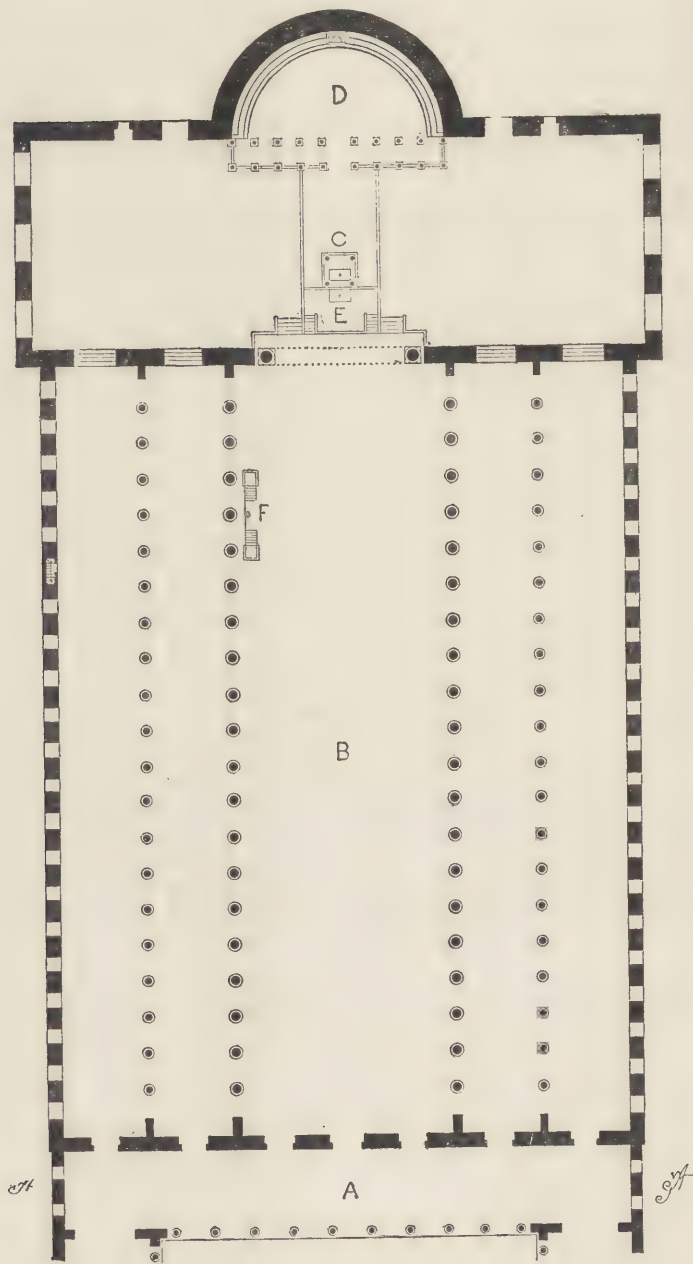
* We here give the text of the rescript, alluded to by Sir G. Head, discovered and published by Baronius. "Valentinianus, Theodosius et Arcadius A A A. Sallustio Urbis Præfecto. Desiderantibus nobis contemplatione venerationis, antiquitus jam sacram basilicam Pauli Apostoli pro sanctimonia religionis ornare, pro quantitate conventus amplificare, et pro studio devotionis attollere: gratum fuit tuæ sublimitatis officium, quod ad inspicienda universa, ut res exigebat, detulisti, et omnem situm locorumque faciem sermonis congrui diligentia nostræ serenitatis auribus intimasti. Instructiores enim nos jubere decuit, quæ jubenda sunt. Quare participato examine cum venerabili sacerdote, intimatisque omnibus et magnificentissimo ordini et Christiano populo, quæ jubemus; sublimitas tua rem diligentiori tractatu et plena rerum inspectione discutiat: ac si placuerit tam populo quam Senatui, iter vetus, quod basilicæ præterit dorsum, quodque ripæ Tiberis amnis adjacet, innovari, ut præsens via spatio futuri operis applicetur: eatenus per architectos futuræ basilicæ dirige formam, quatenus se planicies extructioni amica protulerit, ne ulla inæqualitas splendorem fabricæ amplificentioris sublimet. Sic quidem in omnium moenium facie decor summus est, quem servari oportere, prima statim fronte magnarum ædificationum demonstrat intentio."

been of such extraordinary length as to have served for a covered way from the city, extending up to the very walls. In the year 801 another fall of the roof was caused by an earthquake, but the damage was immediately repaired by Leo III. In the year 844 Gregory IV. bestowed several valuable gifts, but in 846 the basilica was sacked by the Saracens, who in a foray plundered the altars and carried away everything portable; notwithstanding which calamity the losses were patiently and successively replaced by Leo IV., Benedict III., Nicholas I., and Stephen VI., between the years 847 and 897. From the latter period, for the space of upwards of a century and a half, the basilica appears to have been altogether abandoned to its fate, nor are there any further restorations heard of until the year 1070, when, in the reign of Alexander II., while Hildebrand, afterwards Gregory VII., was apostolic legate at Constantinople, the Roman consul, Pantaleone, caused a magnificent door of bronze for the main portal to be made in that city and transported to Rome. Between the years 1099 and 1118, during the reign of Paschal II., the building was struck and set on fire by lightning, though, as there are no accounts of restorations made immediately in consequence of the event, it is to be presumed the damage was not great; no restorations, in fact, are recorded for more than a hundred years afterwards, until the reign of Honorius III., who, in the year 1226, ornamented the tribune with mosaics, which were completed after his death by the abbot Gaetano Orsini. Additions were made to these mosaics by Nicholas III., about the year 1277, after which period the ancient edifice fell once more into an utter state of abandonment for the space of nearly another 150 years, that is to say, until the year 1425, when Martin V. intrusted its sacred offices to the charge of a convent of Benedictine monks, whose convent is attached to the building at the present day. Thenceforward, subsequent to the revival of the arts, the pontiffs one after another, hardly with exception, appear to have contributed to its improvement and ornament, including particularly Eugenius IV., successor to Martin V., who rebuilt the roof, Sixtus V., who restored the transept and its ceiling, and Pius VII., who, himself originally a Benedictine monk of the annexed convent, repaired the ceiling of the principal nave. And thus, at the period of the reign of the latter pontiff, the edifice had then become, on account of its great antiquity, the abundance of its early Christian reliques, its pure classical form, which had been preserved throughout all its rebuildings, restorations, and casualties, and the authentic character of its history, the most magnificent specimen of an ancient Christian basilica to be seen in all Christendom." *

We give, in Fig. 13, a plan of the basilica, in what is presumed to be its original form, before the several additions and alterations were made which existed at the beginning of this century, previous to the fire. It is fortunate that throughout all the repairs and restorations which the fabric underwent during fourteen centuries, it never lost its original design. It is quite obvious that the basilica of St. Peter was the model followed in designing St. Paolo; a simple comparison of their ground plans clearly proves this to have been the case. The chief difference between the plans of the two basilicæ (Figs. 10 and 13) exists in the transeptal sacrarium; in St. Peter's, it is considerably narrower than the nave, and prolonged some distance, at both ends, beyond the aisle walls; in the plan now given of St. Paolo fuori le Mura it will be seen that the transept is the same width as the nave, and is but very little longer than the entire width of the body of the building. The tribune is here the same width as the nave,

* *Rome*. Vol. iii, p. 76-78.

whilst in St. Peter's it is less, being only the same width as the arch of triumph. These alterations were decided improvements, giving ~~that~~ that



spaciousness and dignity to the sacrarium in the basilica of St. Paolo which were found to be wanting in the earlier work. Beyond the above-

mentioned difference in plan the chief improvement introduced by Valentinian's architect showed itself in the design of the nave. Observing in St. Peter's the general feeling of heaviness, want of agreeable proportion, and apparent deficiency in strength, caused by the use of horizontal entablatures in the main colonnades, with such lofty walls above them, he wisely adopted arches instead, placing their springers directly on the capitals of the columns. This was a decided improvement from all points of view; besides imparting both strength and a feeling of lightness, it saved material and avoided the necessity for such expensive features as moulded and sculptured entablatures of great dimensions. All the deviations from the design of the earlier basilica indicated true advancement; and, in the later basilica of St. Paolo, we see the first great step towards the development of Church building, which reached its culmination in the Gothic cathedrals of the thirteenth century,

And now with reference to the design of St. Paolo fuori le Mura, in its complete and original form. At the western end (ecclesiologically*) was a spacious quadrangular atrium, with a portico round its north, west, and south sides, and a shallow narthex, A, Fig. 12, in front of the seven entrances to the nave and aisles. The portico and narthex were formed by Corinthian columns, carrying plain semicircular arches; and covered with tiled timber roofs, sloping from the surrounding walls towards the central space. In this space stood a cantharus. The body of the basilica, entered from the narthex through seven doors, consisted of a nave about 74 feet wide, and four aisles, making a total width, internally, of about 198 feet. The length of the nave was about 276 feet. The nave arcades were supported on fluted Corinthian columns, twenty on each side, about 33 feet in height. Twenty-four of these were of beautiful pavonazzetto marble, and supposed to have been taken from some Roman building of the best period; the remainder were of Parian marble wrought in imitation. The double aisles, on each side, were divided by rows of Corinthian columns of Parian marble, about 25 feet high, supporting semicircular arches. The nave and aisles had plain open timber roofs. The aisles were lighted by numerous windows round-arched in the side walls. The walls of the nave were carried to about the height of 93 feet from the floor, and were pierced with twenty-one clerestory windows on each side. Underneath these were three rows of panels for mosaic pictures. The floor of the transept is shown on the plan elevated five steps above that of the body of the basilica; but, from the fact that the bases of the columns of the arch of triumph were on the same level as those of the nave colonnades, it is probable that originally both floors were on one level, as in the earlier basilica of St. Peter. The transept was entered from the body through five arches; that from the nave—the arch of triumph—was about 46 feet wide by 69 feet high. This arch sprang from dwarf entablatures, resting on two massive Ionic columns. As to the early ritual arrangements of the sacra-

* The altar end of the basilica pointed towards the N.N.E.

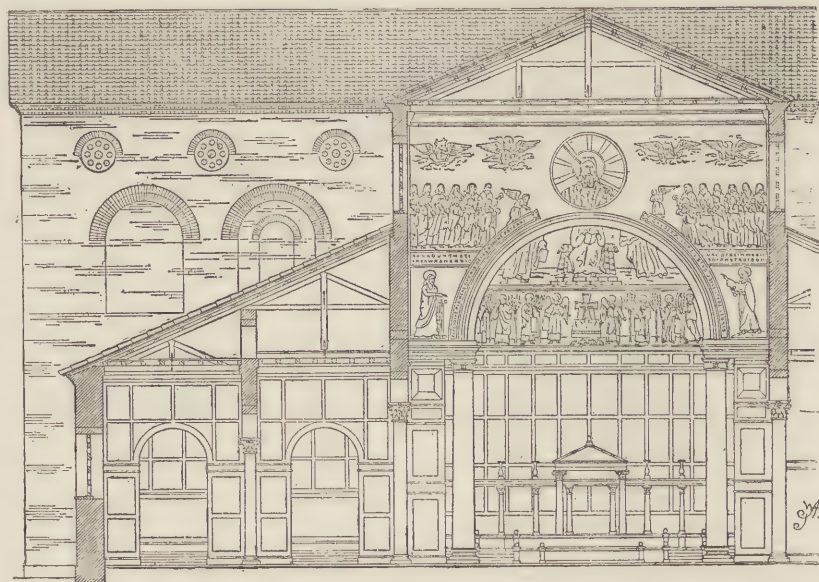
rium, nothing certain is known; those indicated on the plan are probably nearly correct. The high altar, C, enclosed in a ciborium, stood over the usual confession, E. The choir was, in all probability, an enclosed space extending westward into the nave to about the distance shown by the ambones, F. The tribune, D, was a semicircular apse, of the same width as the nave, covered with a semi-dome. The throne for the bishop and the seats for the clergy occupied the usual position against the wall. Two rows of small columns, carrying a continuous entablature, appear to have been erected as a sort of screen to the tribune, similar to the arrangement which obtained in the basilica of St. Peter, and probably about the same period (eighth century).^{*} Whether or not such colonnades were used in this position previous to the time of Gregory III. (731-741), cannot well be decided; but it is highly probable that screens of some description, hung with movable curtains, were erected in the earliest basilicæ; and that the colonnades alluded to were only more substantial and beautiful constructions erected in their place. The entablatures of the colonnades were surmounted with statues and lamps.

The part section given in Fig. 14 conveys a tolerably accurate idea of the proportions and construction of the nave and aisles of this basilica. It is taken from the interesting series of drawings given in the *Monuments de l'Architecture Chrétienne*. Hübsch has shown the nave and aisles covered with flat ceilings; but there is little doubt that the roofs were open throughout, similar to those of the basilica of St. Peter, as indicated by Fontana.

On the 16th of July, 1823, a fire broke out in the roof, where some repairs were in progress, and in a very few hours the entire building was in flames. The roofs, falling into the nave and aisles, burned there with the greatest fury, calcining the marble columns of the arcades, and splitting the porphyry columns of the sacrarium and about the altars into fragments. Before the day closed, this superb basilica, with all its rich internal decorations and the reliques of Christian art which had accu-

^{*} The following is a note given by Hübsch:—"Ugonio (Staz. 29, p. 237) dit du presbyterium: 'Di la dell' arco grande è la croce della chiesa, nel mezzo della quale è il presbiterio, o coro antico, cinto attorno di marmi, ed era già ornato di venti colonne la più parte di porfido, con la sedia pontificale in capo fatta da Leone III. Ma le colonne, ch' erano dietro l'altare con la sedia, sono state levate . . . si è allargato lo spazio dietro l'altare dei SS. Apostoli, e sono stati levati tutti gl' impedimenti che ingombravano la vista di esso altare al Sommo Pontefice ed ai Cardinali, che nel circuito sotto la tribuna risiedono . . .' La description de Severani s'accorde parfaitement avec ces indications. Ce qui prouve que ces petites colonnades, qui n'étaient qu'une espèce d'enceinte du presbyterium, étaient surmontées d'une corniche sur laquelle on posait des candelabres et des statues, c'est la description que fait Anastase le Bibliothécaire des colonnes posées par Grégoire III. autour du presbyterium de Saint-Pierre: 'Hic concessas sibi columnas sex onychinas volubiles ab Eutychio exarcho, duxit eas in Ecclesiam beati Petri Apostoli, quas statuit circa Presbyterium ante confessionem, tres a dextris et tres a sinistris juxta alias antiquas sex lithoparias, super quas posuit trabes, et vestivit eas argento mundissimo, in quibus sunt expressæ ab uno latere effigies Salvatoris et Apostolorum et ab alio latere Dei Genitricis et sanctarum Virginum. Posuitque super eas lilia et pharos argenteos, pens. in unum lib. septingentas.'"

mulated during fourteen centuries, was a mass of smoking ruins. All that escaped total destruction were the western gable, with its thirteenth century mosaics, and the colonnade constructed by Benedict XIII.; the tribune, with the thirteenth century mosaics of its semi-dome; forty of the columns in the aisles; a few sarcophagi; portions of the portraits of the



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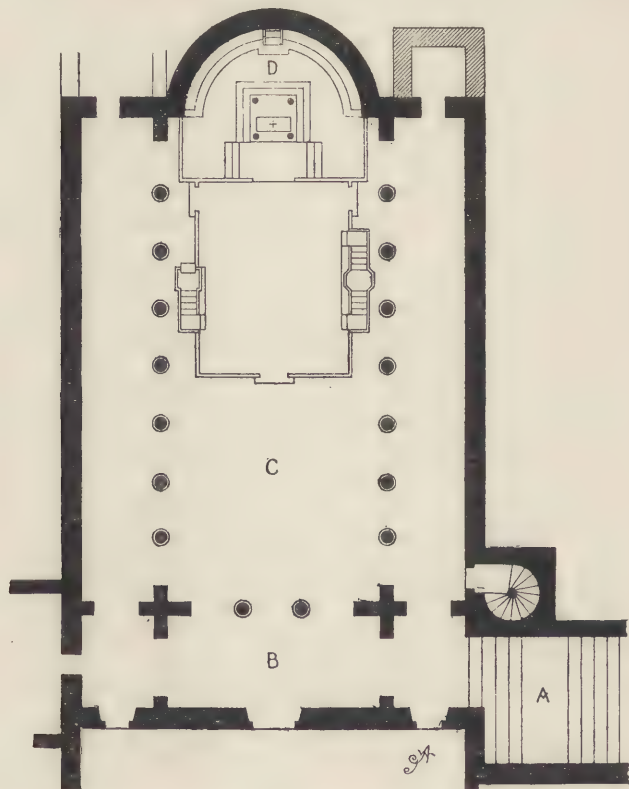
Popes, over the nave arcades; and part of the bronze gate, cast at Constantinople in 1070, by the order of the Roman consul, Pantaleone.*

The basilica of St. Agnese fuori le Mura is another Roman example of the greatest interest. It was founded by Constantine, in 324, at the request of his sister Constantia, over the spot where the remains of St. Agnes were discovered. It was enlarged to its present size by Pope Symmachus (498-514), and subsequently restored, and no doubt slightly altered, by Honorius I. (624-640) and Adrian I. (772-795). In all essential points

* "After this disaster, large sums were contributed by Catholic sovereigns and princes, and by each successive pope, for the restoration of the building; and the work is now completed as far as the interior is concerned, the plan and dimensions of the edifice as contemplated by Honorius having been carefully followed. The transept and the high altar were finished and dedicated in 1840 by Gregory XVI., and the whole edifice in Dec., 1854, by Pius IX., in the presence of an immense concourse of Church dignitaries and prelates from every part of Christendom. Nothing can exceed the richness of the whole edifice. The splendid nave and aisles were completed by Pius IX. The roof of the nave is a magnificent specimen of modern carved woodwork and gilding, having the armorial bearings of the reigning pontiff in the centre; but is over gaudy and heavy, and greatly inferior in general effect to the plain open wooden one of the Theodosian edifice. The effect of the four ranges of granite columns is unparalleled, certainly much finer than what the basilica presented before it was burned down."—*Handbook of Rome and its Environs*. Murray, Lond., 1881.

the building remains as it was constructed by Symmachus; and, accordingly, presents a most valuable record of the basilican arrangement, in its simplest form, at the close of the fifth century.

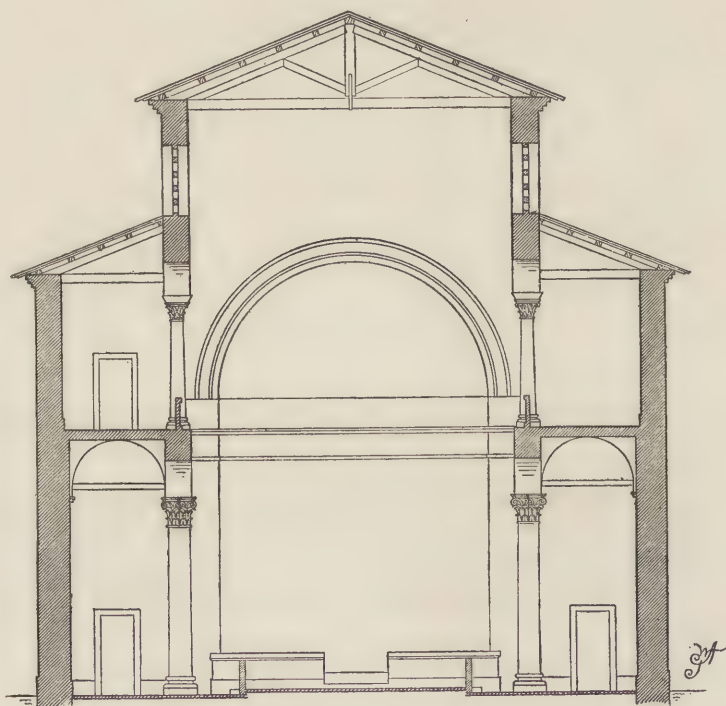
The ground floor of the basilica is so much below the level of the adjacent road, that it has to be reached by a descent of forty-five steps, indicated at A, in plan Fig. 15, which leads into the southern end of the internal narthex, B. The arrangement of the interior is extremely simple, consisting of a nave, C, about thirty feet wide, with a narrow aisle on each side, and a semicircular apse, D, projected from its eastern end. Over the



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aisles and narthex is a gallery, shown in the section, Fig. 16. The nave is divided from the aisles and central portion of the narthex by sixteen ancient columns of different marbles; some are fluted and some plain. Speaking of these columns, Sir G. Head informs us that the "seven on each side are of different material, but corresponding on the right and left in pairs; as, for instance, the four first pairs are bigio brecciato, of which the blotches, faint and indistinct, on a ground here and there suffused with a pinkish hue, bear a near resemblance to pavonazzetto. The fifth pair are fluted pavonazzetto, of which the flutings are remarkable for the cabled divisions, which amount in number to no less than one hundred and forty. The

sixth and seventh pairs are Porta Santa of a peculiarly fine quality." These columns carry semicircular arches, which spring directly from the capitals, which are of the Corinthian and Composite orders. The gallery has also an arcade supported on smaller columns with capitals of different designs. The first pair of shafts are of pavonazzetto, spirally fluted; the second pair of pavonazzetto, fluted in the ordinary fashion; the third pair are of grey granite; the fourth pair of pavonazzetto, fluted; and the fifth, sixth, and seventh pairs of bigio venato. Over the gallery arcade are round-arched clerestory windows. The narthex and ailes are vaulted; and the nave and gallery are covered with wooden roofs, which were no doubt



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open and simple in the time of Symmachus, as shown in Fig. 16. The tribune, nearly the width of the nave, is covered with a semi-dome, still retaining the mosaics which were applied by Honorius in the year 680. These mosaics represent St. Agnes, richly attired in Greek garments adorned with jewels, and carrying a book in her hand; over her head, and issuing from clouds, is the hand of the Deity holding a crown. On her right is Honorius I., bearing the model of a church; and on her left is Symmachus, carrying a book. The existing ritual arrangements are evidently not on the same plan as those of the sixth century; the probable early arrangements, based on those found in other Roman basilicæ, are indicated on our plan.

Taken altogether, the basilica of St. Agnese is one of the most interesting churches in Rome;* it is the best example to be found there of a galleried basilica, with an interior narthex, and without a transeptal sacrum. It originally had an atrium at its western end, the doors from which still remain.

Enough has been said to convey a tolerably clear idea of the construction and arrangement of the earlier Christian basilicæ; and it only remains for us to hastily glance at a few examples of later date, erected in Rome and elsewhere.

The basilica of St. Clemente, at Rome, has long been a building of the greatest interest to the architect and ecclesiologist, chiefly on account of its internal arrangements and ancient furniture. No basilica in existence retains in so complete a form the early ritual arrangements of the choir and sacrum; for, notwithstanding that the walls of the choir, the ambones, and the ciborium were erected in their present positions about the twelfth century, they retain for the most part the disposition which obtained many centuries before. Although the plan of the building may reasonably be accepted as that of a fifth century basilica, nothing in the existing structure can be safely attributed to so early a date. According to tradition, a church of some sort was founded on the present site, about the year 95, over the spot where the house of St. Clement, third bishop of Rome, stood; it is more probable, however, that the house itself was used during the life of the bishop, as a place of meeting by the Christians. There is satisfactory testimony that a church was erected or existed here in the fifth century. According to the records of the Church, Pope Zozimus, in the year 417, condemned Celestius as a heretic within its walls. Nothing further is recorded until the eighth century, when it was restored by Adrian I. (772-795). The present lower Church is probably this restoration; it originally contained a choir, attributed to John II. (532-535), of which we shall have more to say. The existence of a lower church had been entirely forgotten until, in 1857, it was discovered by the late Father Mullooly, prior of the adjoining Dominican convent. The upper church, the plan of which is given in Fig. 17, is believed to have been originally built by Adrian I., and restored or practically rebuilt by cardinal Anastasius, under Paschal II. (1099-1118). Since then it has not been materially altered.

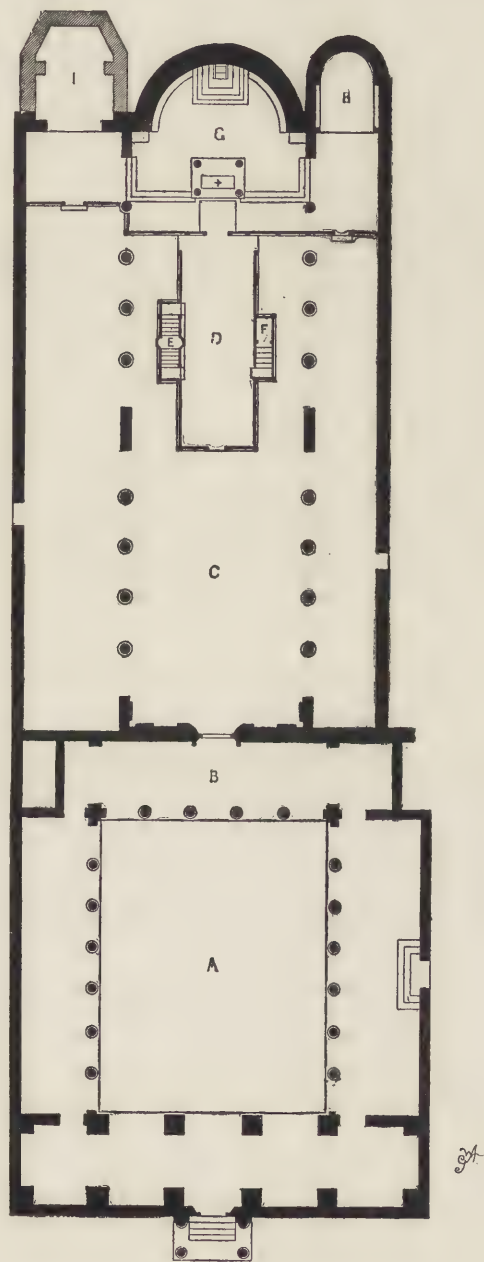
On reference to the plan it will be seen that this basilica has a perfect atrium, A, indeed the only perfect one in Rome; this may with certainty be ascribed to the time of Adrian I.† The portico on the west side (archæologically‡) is vaulted and supported on massive piers; the lateral

* The basilica has been thoroughly repaired by Pius IX., and adorned with new marble pavements and mosaic pictures. The roof has also been restored.

† Some see in the vaulted portion on the east side, or that farthest from the church, the only remains of Adrian's atrium, and believe the other parts to be the work of Paschal's time.

‡ The atrium is at the eastern end of the basilica; the altar end or tribune of the building pointing almost due west.

porticoes and the narthex, B, are supported on antique Ionic columns, chiefly of red and grey granite. In the centre of the open space stood a



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catharus, now replaced by a fountain. The atrium is entered through a doorway, before which is a porch, added in the thirteenth century.

N

The body of the basilica consists of a nave, C, with lateral ailes of different widths, separated by arcades supported on antique Ionic columns, which, according to Sir G. Head, are of the following materials:—"five are Hymettian marble, six cipollino, two grey granite, one red granite, and two granito del foro." Some of the shafts are plain and some are fluted. At the ends of the ailes are two chapels, H, I; both are later than the rest of the fabric, but the former may probably be a restoration of an original chapel. We have omitted two late chapels, constructed at the opposite ends of the ailes, so as to show more clearly the original plan of the building. At the end of the nave is projected the semicircular apse or presbyterium, G, nearly the width of the nave and covered with a semi-dome. Against its wall, in the usual position, is the episcopal throne, formed of marble, and inscribed with the name of cardinal Anastasius; on each side are the seats for the clergy. The semi-dome and the surface of the wall outside the arch are covered with mosaics of thirteenth century date.* But beyond everything in point of interest is the choir, D, and the

*The following description of these mosaics from Mr. Parker's able pen will no doubt prove interesting here. "At the crown of the arch is a half rose, or scallop-shell, with a cross, the Holy Lamb, and the hand of the Father holding a crown over the head of the Saviour, who is represented on the cross in the centre of the picture. This crucifixion is attended by S. Mary and S. John, and on the arms of the cross are twelve white doves, symbolical of the apostles. The foot of the cross is hidden by a bush rising from the mound, or Calvary, on which it is placed, from which flow the four rivers of Paradise; two stags are drinking from these rivers, in allusion to Ps. xlii. 1, 'As the hart panteth for the water brooks,' &c. From the bush, branches spread on each side of the cross over all the surface of the vault, in the elegant flowing lines usual in work of the thirteenth century. On the upper branches are birds, and on the lower ones genii mounted on dolphins; beneath the branches are groups of figures representing man, woman, and child; then on the surface of the earth, shepherds with their flocks, water-birds, and a dolphin, symbolical of the birds, beasts, and fishes. Among these fanciful enrichments are the figures of the four great Doctors of the Church, S. Jerome, S. Augustine, S. Gregory, and S. Ambrose, who are represented as seated and writing, with their names inscribed.

"On a zone or band at the foot of this picture are the usual twelve sheep, with the Holy Lamb in the centre, and at either end Jerusalem and Bethlehem. Between this zone and the principal picture is this inscription relating to the relics here deposited:—

✠ ECCLESIAM CHRISTI VITI SIMILABIMUS ISTI.

✠ DE LIGNO CRUCIS JACOBI DENS IGNATII QUE IN SUPRASCRIPTI REQUIESCUNT CORPORE CHRISTI.

✠ QUAM LEX ARENTEM SED CRUX FACIT ESSE VIRENTEM.

"The picture is surrounded by a border of flowers and fruit, and on the top or keystone of the arch is the monogram of Christ, with the usual Greek letters A and Ω. On the face of the arch is represented a bust of Christ, with the right hand in the act of blessing, and the left holding the book. The symbols of the four Evangelists are arranged on the sides, half hid in clouds: the lion and the ox each hold a book, the angel and the eagle each a crown. Over the lion of S. Mark are figures of S. Paul, with his name inscribed, AGIOS PAULOS, and S. Laurence, inscribed DE CRUCE LAURENTI PAULO FAMULARE DOCENTI. Lower down is the Prophet Isaiah, with his name inscribed, ISAIAS, and holding a book open, on which is written VIDI DOMINUM SEDENTEM SUPER SOLIUM (cap. vi. 1.) The corresponding group is S. Peter and S. Clement, both seated; S. Peter has the right hand raised, in the attitude of speaking, his left holds a book, with the inscription AGIOS PETROS; S. Clement points with his right hand to the anchor which he holds in his left, the emblem of his martyrdom, which is also indicated by a boat and two dolphins at his feet. The inscription is RESPICE PROMISSUM CLEMENS A ME TIBI

accompanying arrangements of the sacrarium. The choir is an oblong space, nearly half the width of the nave, and about one-third its length ; its floor is raised one step above that of the nave, and is enclosed with a marble screen-wall, save where the ambones and the three entrances are. The wall is formed of slabs of white marble, covered with patterns sculptured in low relief, with later decorations in glass-mosaic. The slabs formed portion of the choir enclosure in the lower church ; and from a monogram found upon them, the original work is supposed to have been constructed by John II. about the middle of the sixth century. On each side of the choir is placed an ambo ; that on the left hand of an observer looking towards the altar, E, is the Gospel ambo, indicated by its general importance, its double flight of steps, and the Paschal candlestick attached to it ; and that on the right hand, F, is the lesser or Epistle ambo. It is difficult to decide to what extent these ambones represent those which existed in the earlier basilica. Mr. Parker, whose views on such matters are worthy of being received with attention, speaking of this choir, remarks :—"When the interior of the church was arranged by cardinal Anastasius in the beginning of the twelfth century, the panelled marble screen was altered ; the panels have been cut through in several instances because they would not fit in with the new plan. The front at the west end has had the panels reversed and put inside, in order that the back of them might be ornamented with ribbon mosaics, according to the fashion of the time. The ambones on both sides have been introduced ; one is entirely new, the other is partly made out of the old screen, but built upon and raised with the same peculiar mottled marble, called *pavonazetto*, which is used for all the ambones in Rome. The Pascal candlestick has spiral fluting with ribbon mosaics. The presbytery is raised a couple of steps above the choir, and separated from it by another portion of the old marble screen. Two of the marble slabs with a pierced pattern, one on each side of the door, seem to have belonged to the ancient *confessio* in the lower church or crypt ; another on the side was a window. The *ciborium* over the altar is of the twelfth century, of the same pattern as those in S. George's and in S. Lorenzo, the latter of which has the date inscribed upon it. The design is classical, with an attic or row of small shafts at the top ; it has the rods and rings for the curtains to hang upon. Behind the altar in the apse is the marble throne of cardinal Anastasius, with an inscription upon it :

ANASTASIVS PRESBYTER CARDINALIS HVIVS TITVLI HOC OPVS CEPIT ET
PERFECIT.

"The low marble screen which encloses the choir has already been mentioned as having been brought up from the lower church and re-arranged ; in the lower part of this, on the north side, is part of the

CHRISTUM. Lower down in the picture is the Prophet Jeremiah, standing, his name over his head, JEREMIAS, holding an open book, in which is inscribed, HIC EST DOMINUS NOSTER, ET SUSTINEBIMUS ILLUM."

marble slab of an altar, with this inscription upon it, recording that it was presented by Pope Hormisdas :—

ALTARE TIBI DEVS SALVO HORMISDAS PAPA PRESBYTER CVM SOCIIS OFFERT.

This altar, therefore, belonged to the early church, and was erected in the time of Pope Hormisdas, A.D. 514-523, and was used merely as old material in making up this screen in the twelfth century.”*

The positions of the ambones in this basilica, which are the opposite to those adopted in the other churches in Rome, still retaining such pieces of furniture, have already been discussed in the note on page 76 ; and need not be again commented on here.

The altar is placed, as it invariably was in the early basilicæ, under a ciborium, and advanced so that the celebrant faces the nave and has his back towards the episcopal throne during celebration. It was this position that caused the adoption of curtains on three sides of the ciborium ; they were drawn so as to hide the celebrant from the congregation during the consecration of the elements.

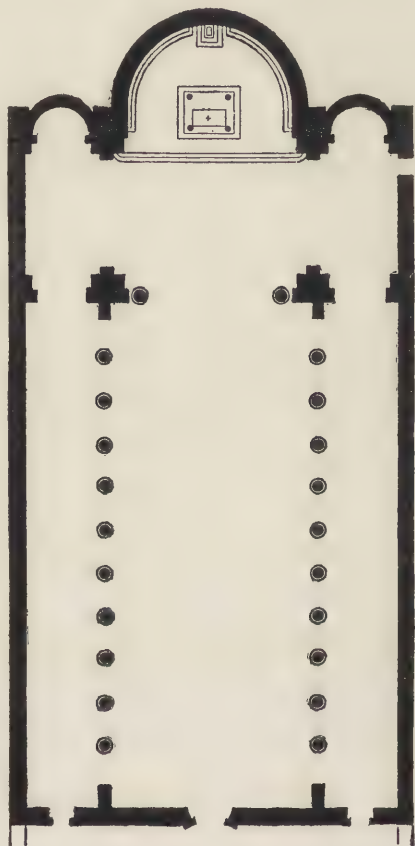


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The general idea of all the ritual arrangements may be obtained from the accompanying illustration, Fig. 18, which represents the interior of the basilica as it was left by Anastasius.

* *Archæology of Rome.* Part xi., p. 43.

The basilica of St. Pietro in Vincoli is one of the most interesting edifices of its class in Rome, remarkable for the simplicity and beauty of its plan, Fig. 19. This church is the "basilica Eudoxiana" of early ecclesiastical writers, deriving its name from Eudoxia, consort of Valentinian III., who founded the original basilica, in the year 442, under the pontificate of Leo the Great. It was erected to enshrine a portion of a



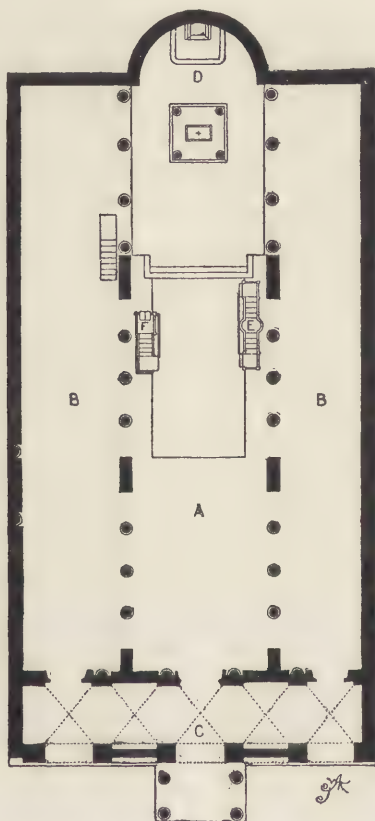
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chain, believed to have been that with which St. Peter was bound. The building was restored or practically rebuilt, it is generally believed, on the original plan, by Adrian I., about the year 780. In 1503 it was restored by Julius II.; and in 1705, the architect Francesco Fontana was employed by Clement II. to make considerable alterations; and the interior then assumed the condition in which it at present appears.

The basilica consists of a nave with single lateral aisles, divided by ancient fluted Doric columns of Hymettian marble carrying semicircular arches. The nave and aisles open by arches into a spacious transeptal sacristy, from the eastern wall of which are projected three apses, as indicated on our plan. The central one is of course the presbytery, and

contains the episcopal throne. The altar is placed within the chord of the apse, and faces west.

The last Roman basilica we need describe here is that of St. Maria in Cosmedin,* a building of great interest to the ecclesiologist. It is believed to have been founded by Dionysius (258-271), and rebuilt in the form of a basilica by Adrian I. (772-795). This, like all the other churches in Rome, has been much modernised. In Fig. 20 is given a plan of this basilica, in what may be accepted as its original form. It is of the



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simplest type, consisting of a nave, A, and single lateral aisles, B, divided by columns and piers carrying semicircular arches. The three entrances

* "Being intended for the Greek exiles who were driven from the East by the Iconoclasts under Constantine Copronimus, and having a *Schola*, or hall of meeting, attached to it for their use, it acquired from that circumstance the name of *S. Maria Schola Greca*, by which it is mentioned by Sirac, Archbishop of Canterbury, who visited Rome in 990: in later times the name of *Bocca della Verità* was given to it by the lower orders, from the marble mask which we see under the portico. The name of *Cosmedin* is supposed by some to refer to the ornaments of the church (*κοσμος*), but we find churches bearing the same name at Constantinople and Ravenna."—*Handbook of Rome*.

open from a narthex, C. At the opposite end of the nave is the usual semicircular apse, D. The nave and aisles were originally covered with open timber roofs. The ritual arrangements are very interesting; for although the ambones do not date earlier than the eleventh century, the episcopal throne than the twelfth, and the ciborium was finished in the thirteenth century, they doubtless represent earlier fittings of a similar nature, and occupy their respective positions. The elevated floor of the early choir still exists, but the enclosing walls have been removed. They are shown, restored, in our plan. The pavement is of opus Alexandrinum of very beautiful design. The positions of the ambones in this basilica have already been alluded to; the Gospel ambo, E, is on the right hand of the observer looking towards the altar; the Epistle ambo, F, is on the left.

Before we close our necessarily brief and imperfect remarks on the basilicæ of Rome, we may add a list of the ecclesiastical edifices of that city, generally mentioned as examples of a basilican plan, with their approximate dimensions, as given in the *Dictionary of Architecture* of the Architectural Publication Society.* The thirteen in the list marked with a dagger (†), are those buildings to which the term basilica is usually restricted.

Name of Church.	Length of Interior exclusive of Apse.	Width of Interior including the Ailes.	Width of Nave only.
	Feet.	Feet.	Feet.
STA. AGNESE FUORI LE MURA	70·55	53·56	31·93
S. AGOSTINO	159·65	76·22	33·47
SS. APOSTOLI †	—	—	—
STA. BALBINA	79·83	None.	47·89
S. BARTOLOMMEO ALL' ISOLA	96·82	Average 80·77	29·87
S. CLEMENTE	118·45	76·22	37·08
SS. COSMA E DAMIANO	—	—	—
STA. CROCE IN GERUSALEMME †	119·99	72·10	32·96
S. GIORGIO IN VELABRO	99·91	Average 59·74	Average 29·87
S. GIOVANNI IN LATERANO † (FOUR AILES) ...	296·64	177·16	61·80
S. GIOVANNI A PORTA LATINA	69·01	45·32	24·72
S. LORENZO FUORI LE MURA †	200·85	70·04	37·08
SS. LORENZO E DAMASO †	—	—	—

* We have altered the arrangement of the churches, and the spelling of their names. In the original, St. Giovanni in Laterano is described as having five aisles, the nave being incorrectly considered as one. (See article *Aile* in this Dictionary.)

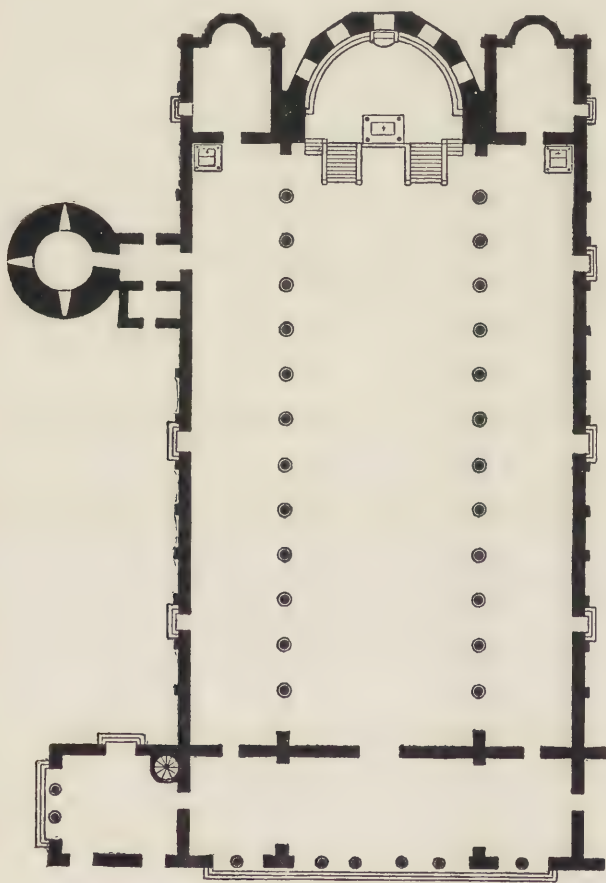
Name of Church.	Length of Interior ex- clusive of Apse.	Width of Interior in- cluding the Ailes.	Width of Nave only.
	Feet.	Feet.	Feet.
STA. MARIA DI ARA CÆLI	203·42	90·64	48·41
STA. MARIA IN COSMEDIN †	98·36	58·19	23·69
STA. MARIA IN DOMINICA	101·97	65·40	39·14
STA. MARIA DI MONTE SANTO †	—	—	—
STA. MARIA MAGGIORE †	255·44	104·03	54·07
STA. MARIA SOPRA MINERVA	255·44	100·94	44·80
STA. MARIA IN TRASTEVERE †	160·68	87·03	41·71
S. MARTINO AI MONTI	203·94	83·43	48·41
S. NICOLO IN CARCERE	116·90	60·77	24·20
SS. NEREO ED ACHILLEO	83·43	58·19	26·26
S. PAOLO FUORI LE MURA † (FOUR AILES)	374·92	214·03	79·82
S. PIETRO IN VATICANO † (AS ORIGINALLY)	354·53	208·76	77·64
S. PIETRO IN VINCOLI †	168·92	92·70	51·50
STA. PRASSEDE	139·56	83·94	44·29
SS. QUATTRO CORONATI	79·31	47·38	24·20
STA. SABINA	158·62	82·40	44·80
S. SEBASTIANO FUORI LE MURA †	—	—	—
SS. VINCENZO ED ANASTASIO ALLE TRE FONTANE ...	172·01	67·90	30·38

For all the purposes of the present article it will now be quite sufficient for us to speak briefly of the following five basilicæ—St. Apollinare in Classe, near Ravenna; the cathedral of Parenzo, in Istria; the cathedral of Torcello, near Venice; and two of the ancient basilicæ of Thessalonica.

The basilica of St. Apollinare in Classe is without doubt one of the most interesting early Christian buildings in existence. It stands about two and a half miles from Ravenna, in a desolate marshy plain, where once was situated a thriving sea-port. All other ancient buildings have disappeared, and the basilica remains the only record of departed wealth and greatness. The architect of the basilica was Julianus Argentarius; it was commenced in the year 534, and consecrated by archbishop Maximianus in 549. The following inscription records the name of its designer and builder:—

“JULIANUS ARGENTARIUS AEDIFICAVIT SUB
ECCLESIO ET URSICINO ARCHIEPISCOPIS
JUSTINIANO ET THEODORA IMPERANTIBUS.”

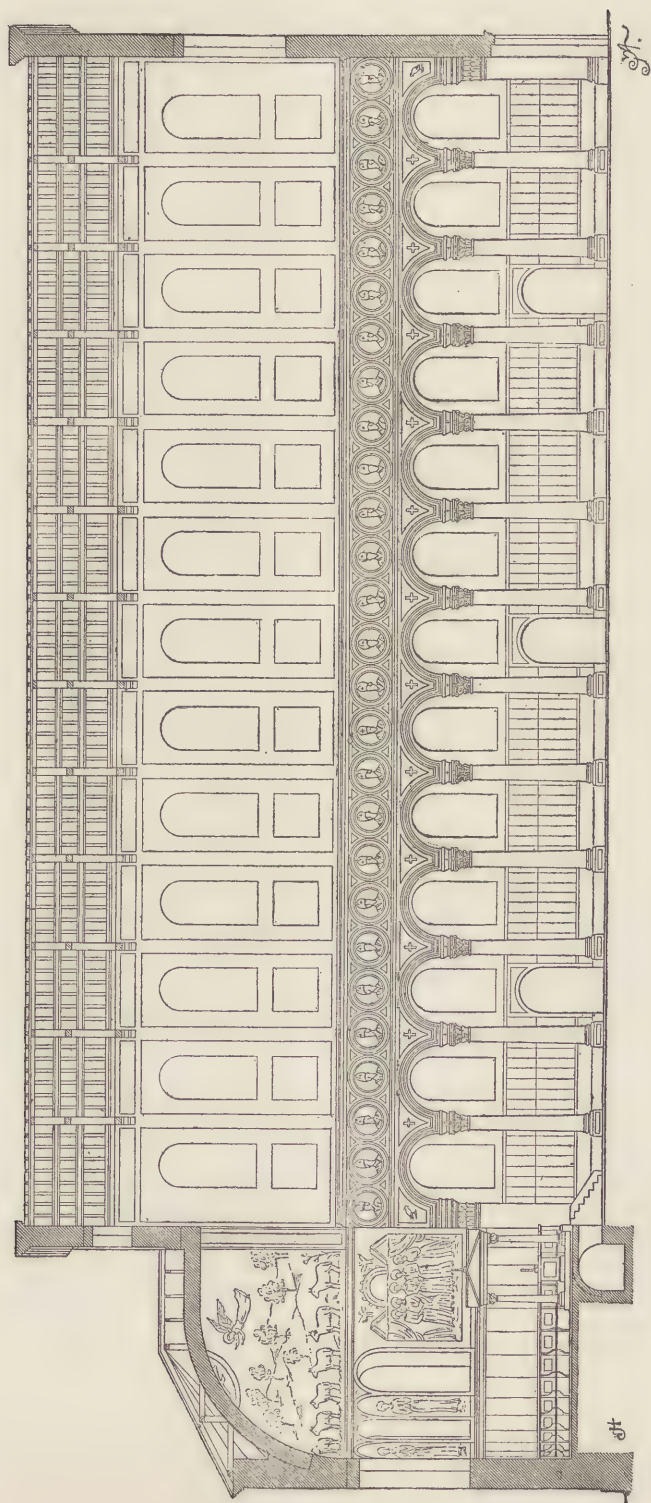
The plan of the building is of the greatest simplicity, differing from those of the important basilicæ of Rome in having no transeptal feature. It consists of a nave, with single lateral ailes, and a deep apsidal tribune at its eastern end, Fig. 21. At the western end is a large porch or narthex, and originally there was an atrium, but of this there are no remains to guarantee our restoring it on our plan. The interior of the basilica is of great interest. The nave and ailes are divided by twenty-four columns of grey cippolino marble, the bases of which are slightly elevated on ornamented blocks. The capitals are of a Composite character, and are surmounted with cushion-shaped blocks, from which the semi-



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circular arches spring, as shown on the longitudinal section, Fig. 22.* Immediately above the arcades, on each side of the nave, is a row of circular medallions, containing portraits, probably originally in mosaic, of

* From a drawing by Hübsch.

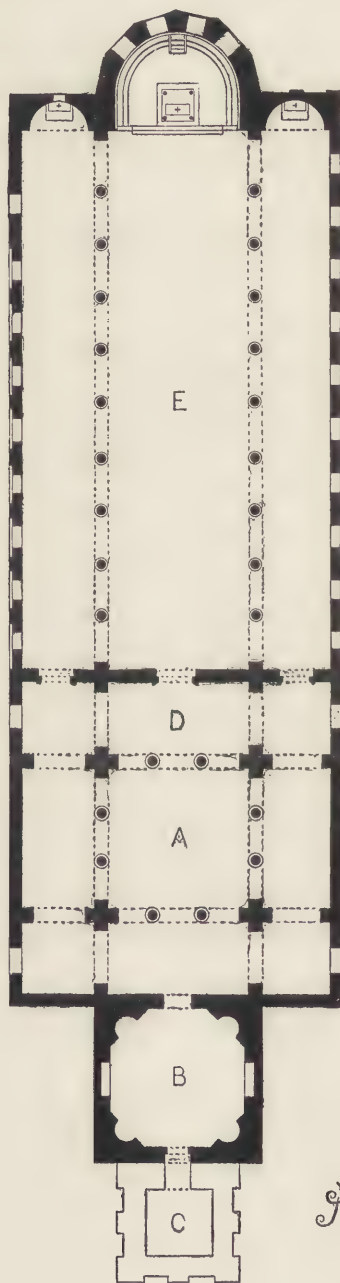


the archbishops of the see, arranged chronologically and beginning with St. Apollinaris of Antioch. The basilica was despoiled in the fifteenth century, both of mosaics and marble wall lining, by Sigismond Malatesta, for the purpose of adorning the church of St. Francesco, at Rimini. A veritable case of "robbing Peter to pay Paul." Above the line of portraits, the walls were originally pierced with twenty-six round-headed clerestory windows, as shown in the section. Both the nave and aisles are covered with low-pitched open timber roofs. The tribune, slightly less in width than the nave, is built semicircular internally and polygonal externally. Its floor is elevated above a crypt, and approached by steps, the probable arrangement of which is shown on our plan: the position of the altar, above the confession of the Saint, and the episcopal throne and hemicycle of seats, are also indicated. The tribune is covered with a semi-dome, richly decorated with early mosaics.* At the eastern ends of the aisles are large chapels with eastern apses. There exists some uncertainty as regards the date of these chapels; but we incline to the opinion held by Hübsch, who carefully examined them with the view of discovering any difference between their mode of construction and that of the rest of the basilica. He says:—"L'abside, comme celle de toutes les églises de Ravenne, présente une forme polygonale à l'extérieur. A ses côtés s'élèvent de vastes chapelles avec de petites absides et des entrées particulières. Ces chapelles sont primitives; car les murs sont construits en briques longues, jaunâtres, peu épaisses, et avec le même liant que ceux de l'église elle-même et du clocher dans lequel on arrive par le couloir."

In the plan of the cathedral of Parenzo, one finds a remarkably perfect example of the early basilican arrangement. It will be seen, on reference

* "The tribune, and the arch in front of it, are covered with mosaics of the 6th cent., in fine preservation. The upper part on the vault represents the Transfiguration; the hand of the Almighty is seen pointing to a small figure of the Saviour introduced into the centre of a large cross, surrounded by a blue circle studded with stars." (See article *Aureole and Glory*, pp. 186-190.) "On the top of the cross are the five Greek letters expressing, 'Jesus Christ, the Saviour, the Son of God.' On the arms are the Alpha and Omega; and at the foot the words, 'Salus Mundi.' Outside the circle, and on either side of the hand, are Moses and Elijah; and below are three sheep, indicating the three Apostles—Peter, James, and John—who witnessed the Transfiguration. In the middle mosaic is St. Apollinaris, in his episcopal robes, preaching to a flock of sheep—a common emblem of a Christian congregation. Between the windows are the portraits of St. Ecclesius, St. Servius, St. Ursus, and St. Ursicinus, in pontifical robes, in the act of blessing the people. On the left hand wall is represented archbishop Reparatus obtaining privileges for his diocese from the emperor Constantinus Pogonatus, who is seen in the centre of the composition, with Reparatus attended by three ecclesiastics, to whom the emperor delivers a scroll, on which is inscribed the word *Privilegium*. On the right wall the sacrifices of the Old Law: Abel, who offers the lamb, Melchisedec the bread and wine, and Abraham his son Isaac. On the arch is a series of five mosaics: that in the middle represents the Saviour, and the symbols of the four Evangelists; in the second are seen the cities of Bethlehem and Jerusalem, from which a number of the faithful, under the form of sheep, are ascending towards our Lord; in the third is a palm, as the symbol of victory; the fourth contains the archangels Michael and Gabriel; and the fifth half-figures of St. Matthew and St. Luke; the lower edge of the arch has handsome mosaics of arabesque ornaments."—*Handbook for North Italy*.

to Fig. 23, that it consists of three main divisions, the atrium, A, the baptistery, B, and the basilica proper, E. A tower originally occupied the



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position at C. An interior view of the atrium, looking towards the narthex, D, is given in article *Atrium*, Fig. 10. The body of the basilica consists

of a nave and single lateral ailes, divided by slender columns carrying semicircular arches. The ailes terminate in small apses, constructed in the thickness of the end walls, and accordingly do not show themselves on the exterior. The central apse is of considerable depth, and contains the altar with its ciborium, the episcopal throne, and the seats for the clergy. It is covered with a semi-dome, and its floor is elevated several steps above that of the nave. The nave and ailes are covered with wooden roofs.*

* The following particulars, given by Hübsch, will not be without interest to the student of architecture:—" Cette basilique à trois nefs, de l'époque chrétienne primordiale, ne se présente pas avec de larges dimensions; mais elle est cependant un des édifices les plus curieux qui nous restent; elle est même, dans certaines de ses parties, un monument unique dans son genre.

" Outre l'église, qui est parfaitement conservée, nous voyons encore un atrium carré très-régulier, dont il ne manque que quelques colonnes, et un baptistère y attenant; de plus, les mosaïques des deux façades frontales se sont heureusement si bien conservées, que le rétablissement de leurs lignes principales est rendu facile. Ces mosaïques sont les anciennes, ce qui ne se retrouve plus ailleurs: on sait que toutes les mosaïques des façades des basiliques romaines furent renouvelées au moyen-âge, longtemps après la construction de ces édifices et après qu'ils eurent perdu cette décoration originaire. Enfin, on est fort étonné, en entrant dans l'abside, de trouver dans un état de parfaite conservation toutes les mosaïques, les revêtements en marbre, et même les sièges du presbytère et la chaire plus élevée de l'évêque. Cette église, dédiée à la sainte Vierge et à saint Maur, était de tout temps l'église cathédrale de l'évêché de Parenzo, fondé au *vii^e* siècle. . . .

" Le sacristain nous fit remarquer que l'on a retrouvé sous le pavé actuel de la nef, un autre plus ancien qui s'étend à toute la surface de l'église. En quelques endroits on a laissé à découvert l'ancien pavé qui se trouve à Om, 80 en contrebas de celui d'aujourd'hui. Comme ce dernier, il se compose d'une espèce de mosaïque faite de cubes de pierres de Om, 015 d'équarrissage et de couleurs variées. On y voit divers dessins imitant des motifs classiques. D'ailleurs, aux endroits où elle n'a pas été réparée, la mosaïque du sol actuel est formée de petits cubes et reproduit des dessins semblables; d'où il faut conclure qu'elles furent faites à des époques peu éloignées l'une de l'autre. Il est impossible d'admettre que le pavé inférieur ait appartenu à un monument païen dont on aurait utilisé les fondements pour la construction d'une église chrétienne. Il ne reste donc qu'à supposer que les effets de l'humidité déterminèrent un exhaussement du sol, et comme il eût été trop difficile d'arracher et de séparer les petits cubes solidement cimentés de la mosaïque du pavé inférieur, on la laissa subsister.

" Quelle est l'époque de la construction de l'église d'aujourd'hui et celle de l'exhaussement de son pavé? C'est là une question qui n'est pas résolue encore. On trouve, il est vrai, sur la fondation de l'évêché de Parenzo, sur son histoire et sur l'église beaucoup de documents; on voit même des inscriptions incrustées dans les murs de cette dernière. Mais tous ces documents paraissent se contredire. Les deux descriptions sus-mentionnées entrent dans de longues dissertations à ce sujet. Quant à nous, nous ferons remarquer: 1^o qu'il existe un document de l'évêque Euphrasius, contenant diverses dispositions qui concernent l'évêché de Parenzo; 2^o que l'inscription très-ancienne, qui se voit entre les mosaïques de l'abside, désigne un évêque du nom Euphrasius comme ayant reconstruit l'église; 3^o que le monogramme d'un évêque Euphrasius se voit sur un certain nombre de coussinets surmontant les chapiteaux des colonnes de l'intérieur; et 4^o que dans une ancienne chapelle de Saint-André, adossée à l'angle nord-est de l'église, le tabernacle en marbre porte une inscription qui désigne aussi un évêque nommé Euphrasius comme fondateur du monument. D'après l'argumentation, très-plausible selon nous, de *Lohde*, l'Euphrasius cité par le document n^o 1 serait le même que celui que l'inscription de l'abside nomme le restaurateur de l'église qui tombait en ruines. *Lohde* place son épiscopat vers la fin du *vii^e* siècle, et *Coleti* vers la fin du *viii^e*. Le fondateur de l'église première, au contraire, serait cet Euphrasius nommé dans l'inscription du tabernacle, et qui, selon *Ughelli*, fut le premier titulaire de l'évêché de Parenzo, fondé au commencement du *vii^e* siècle. Précisons maintenant notre opinion. En examinant les

The cathedral of Torcello is another basilica of great interest, closely resembling in plan the cathedral of Parenzo, on the opposite shores of the Gulf, from which, indeed, it is believed to have been copied. The present basilica was rebuilt in the first years of the eleventh century by Orso Orseolo, bishop of Torcello, no doubt on the site of an earlier church. The building consists of a nave, A, Fig. 24, with single lateral aisles. Like the cathedral of Parenzo it is triapsal, the nave terminating in a semicircular tribune and the aisles in deep apsidal chapels, F. The following description is given by the Rev. B. Webb, who visited the building about the year 1847.

"The plan is Basilican, and parallel triapsal: a broad nave and two narrow aisles all ending in round apses. The arcades are of ten arches on each side; stilted and round-headed. The columns are cylindrical and monolithic, of marble; the caps elaborate and like Corinthian, under abaci of red marble; the bases very eccentrically moulded. These arcades sustain high walls, without triforia; quite blank on the north side, but pierced on the south side with ten very small round-headed lights, deeply splayed. The roof is a low-pitched wooden one, very simple and massive, with king-posts and tie-beams resting on stone corbels. The aisles have (modern) flat panelled roofs: the aisles have three spanning arches, at the third, fifth, and seventh columns, counting from the east, respectively; but these transverse arches do not stretch across the nave. There are no windows in the north aisle; a few small ones high up in the south aisle, and irregular round ones at the west end.

"The apses are domically vaulted, and are covered with mosaics.* The most singular arrangement—perhaps in the world—is that the central apse is filled with concentric stone seats,† six in number, rising one above the other, like an amphitheatre; while in the middle point, higher than all, is the pontifical chair, raised considerably higher than the rest, with stone side walls, and a steep separate ascent of thirteen steps immediately before it." The throne and steps are shown at E, on our accompanying plan. "This arrangement is now put to no use; the apse is stripped of all fittings, and remains in its cold desuetude one of the most remarkable ecclesiastical monuments in existence. The back of the pontifical chair is of alabaster, beautifully carved with a cross between stars and flowers: the cross is covered with interlacing flower-work, with a hand in benediction in the middle point. The slab is three feet one inch high and twenty-two inches broad: it is flanked by two short columns, the caps of which are connected by a band of carved flower-work. The seat is thirteen and a half inches broad, and seventeen and a half inches high.

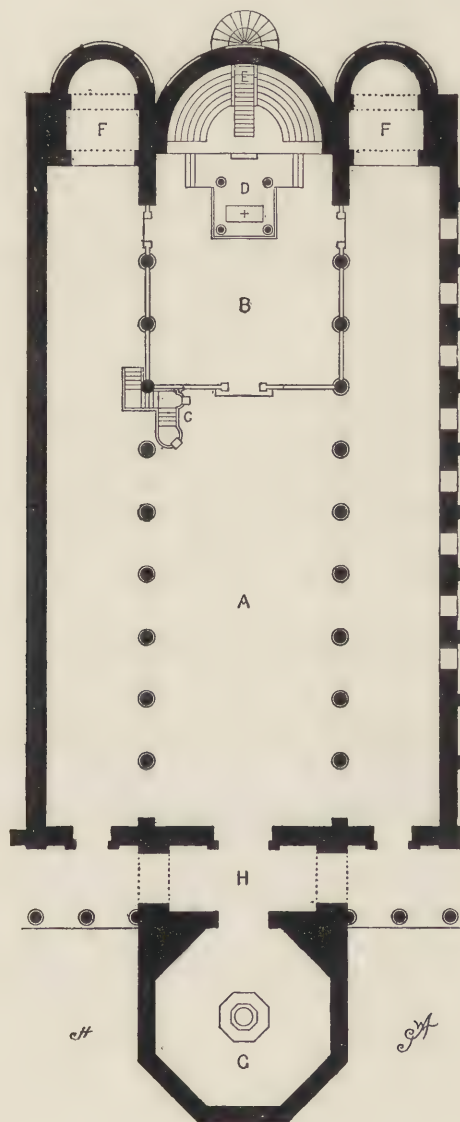
"The lowest of the concentric seats is on a considerably higher level than the choir: the seats end abruptly, as if cut through by a vertical section, and they present on each side the appearance of a precipice cut into steps. The altar (which is unfortunately quite modern) stands on a platform projecting out into the choir from the middle of the raised seats. At present the celebrant stands at its west face, looking towards the east. I imagine that the ancient altar stood rather nearer the apse, and that the celebrant stood on its eastern side, facing the church, and with his back to the bishop.

deux rangées de colonnes du monument, et en les comparant à celles des églises de Ravenne du vi^e siècle, on trouve des analogies si frappantes dans le profil des moulures, dans les coussinets, dans la forme des chapiteaux, etc., qu'on ne pourrait placer l'origine de l'église de Parenzo à une époque bien distante de celle des monuments de Ravenne."

* For an abridged description of these mosaics, from this writer's pen, see article *Apsæ*, p. 233, vol. i.

† Now of brick, but originally cased with marble.

But this is merely a speculation, formed to account for the appearance the present arrangement presents. The choir is formed by a low wall on each side, stretching along the three eastern arches (the furthest to the east having side doors), and returned



across the church at the third columns. It is fitted up with single stalls, returned; and with a throne at the north-east corner. It is very curious to see the disused ancient arrangement of the apse and this more modern choir; particularly since this choir is of great antiquity, perhaps at the latest of the eleventh century. Its floor is laid in a beautiful mosaic; and the screen is also excellent. The west part of it is a deep cornice, resting without arches upon four tall marble columns, so placed as to leave a

broader space for the holy doors between them. The columns are most elegant, with exquisitely wrought caps and bases. On either side the two intercolumniations are filled by low breast-high panels of marble, carved in two designs; of a lion hidden among foliage, and two peacocks picking grapes out of one vessel. The cornice now contains a somewhat modern picture of the Holy Child, held by His Mother, between the twelve Apostles. This cornice does not reach up to the level of the caps of the nave-arches; so there is a space between it and a rood-beam which goes across from cap to cap and sustains a rood (without the attendant figures) in the middle: under which is a panel, resting on the cornice below, painted with the words, 'Terribilis est locus iste.'

"At the north side of the west face of the rood-screen there is a beautiful ambon of white marble. The ascent to it begins on the north side, from the aisle, behind the screen: these steps mount to a platform which clings to the third column; and, a few more steps southwards, along the west face of this column reach another platform, to which there is a circular front, and a stone-desk facing south; this was probably for the Epistle: five more steps from this platform, in a direction due west, bring one to a higher pulpit projecting into the nave, and almost reaching the fourth column, of almost an oval form, with low walls round it and a desk facing south-west.

"Under the great apse there is a crypt of very small proportions, reached by steps on each side from the apses of the north and south aisles. The steps are wide, and occupy nearly the whole area; they conduct to a very small apse, just large enough to hold an altar with one small window over it."

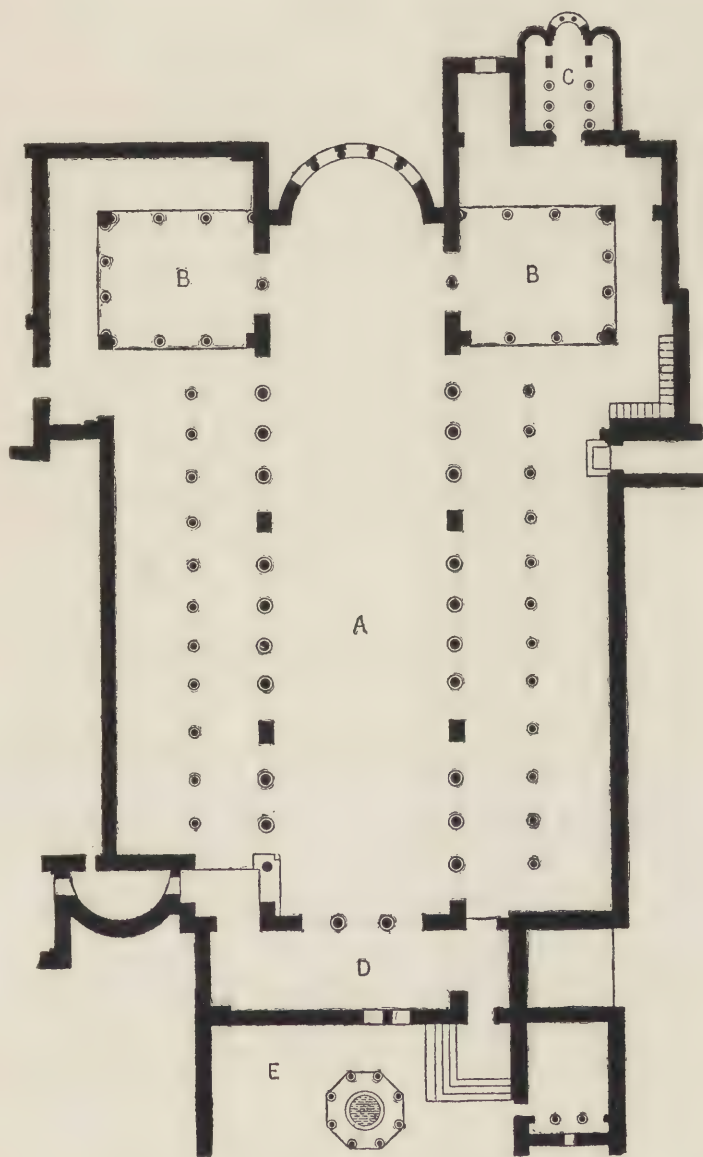
The probable original arrangement of the sacrarium is indicated on our plan, where the altar, D, is placed within the four columns of a ciborium, and advanced so that the celebrant could stand under the ciborium on the east side, according to the early custom. At the west end of the nave is a covered porch or narthex, H; and an octagonal baptistery stood at C. There does not appear to have even been an atrium attached to this church; in this respect it differs from the cathedral of Parenzo. The absence of the atrium, however, is readily accounted for by the late date of the building.

We now come to our concluding examples—the mosques of Kassoumihie and Eski Djouma, at Thessalonica, both of which were constructed as Christian basilicæ.* The former was originally dedicated to St. Demetrius, who was martyred in the year 306, during the sojourn of the emperor Galerius Maximianus at Thessalonica. The present church, which was the second erected in honour of this saint, was built about the commencement of the fifth century. The following is the description of the building given by Texier and Pullan; it will be readily understood by reference to the accompanying plan, Fig. 25.

"The plan of the church of St. Demetrius is of that form which the Latins call Basilica, and which Greek writers designated under the term *δρομικὸν σχῆμα*, a stadium or oblong. It is remarkable, that amongst the numerous definitions of churches given by Leo Allatius, he never makes use of the word basilica. We, however, prefer to use this word, as it is employed by modern architects, though it was never used by either the writers or architects of Byzantine times.

* For the plans and particulars relating to these buildings we are indebted to the valuable work *Byzantine Architecture*, by C. Texier and E. P. Pullan. London, 1864.

" The church of St. Demetrius, then, is a basilica, with a nave (A, Fig. 25) and double aisles. To the east of the aisles are two square compartments, surrounded by columns (B) ; these *atria** are the full height of the nave ; they were reserved for the



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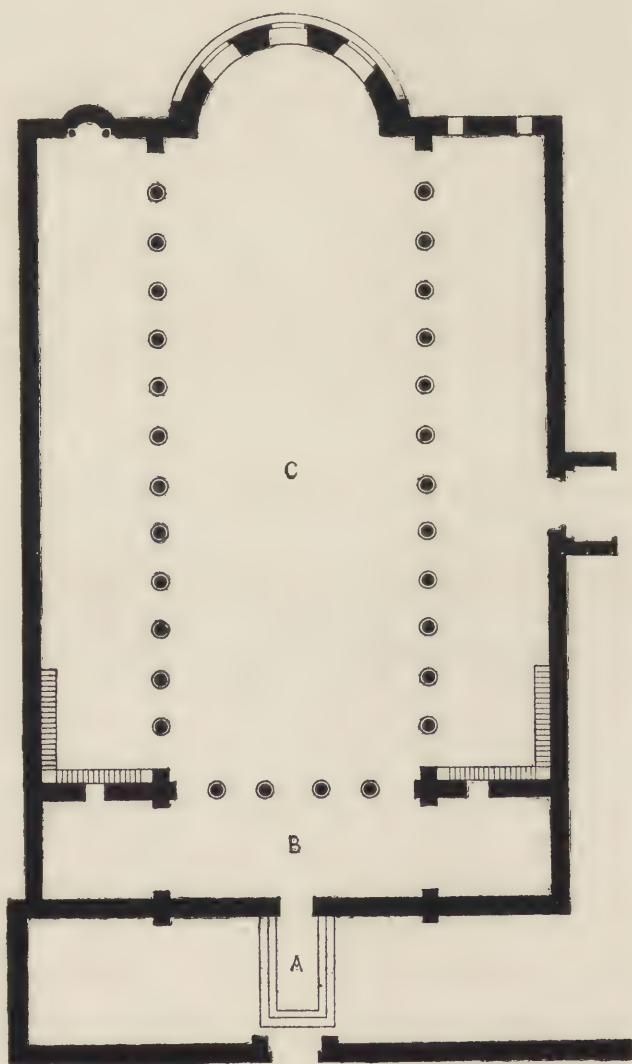
* It is very questionable whether the term *atria* can, with any degree of accuracy, be applied to the internal portions of the basilica alluded to. We are free to admit, however, that their unique character renders it a matter of difficulty to find a proper name for them, unless we can call them transepts. They were doubtless suggested by the transeptal features of the earlier Roman basilicæ.

deacons and other ministers. No similar arrangement is known to exist in any other church. Each atrium is separated from the nave by a pointed brick arch, sustained in the centre by a square pier: this is evidently a modern addition;—the round arch is employed in every other part of the church. The nave is divided lengthways into three large bays by massive square piers; the centre bay has four columns, the others three each, all supporting semicircular arches. The columns of the central bay have pedestals, two of them square and two octagonal. The same arrangement is followed in the gallery of the first story, or triforium; in the third, or clerestory, are ranges of arched windows, separated by short massive columns. The columns of the aisles are half the length of those in the nave; they support a wooden gallery, which runs at the height of the imposts of the nave. At the end of the south aisle is a small chapel (C), ornamented with columns; this is the *skeuophylakion*, used for containing the sacred vessels; it is an indispensable adjunct to a Byzantine church; it measures twenty feet by eighteen feet. It is to be remarked that all the internal decoration is composed of slabs of marble of different colours; there are neither mouldings, nor cornices, nor modillions. The entablature of the ground-floor is ornamented with marble mosaics, representing modillions, with a decoration of beads, dentils, and flowers. The archivolts of the arches of both stories are composed of voussoirs, of marbles of different colours. The piers are covered with white marble slabs, and the spandrels between the arches have panels of inlaid marbles of various colours. The capitals of the columns on the ground-floor are all varieties of the Corinthian order, carefully executed. They are surmounted by *dosserets** of marble, which receive the arches. The columns of the triforium are of the Ionic order, the capitals being surmounted by very high *dosserets*. These columns are separated by a low marble parapet, ornamented with panels bearing the cross or the *labarum*. The *dosserets* are, without exception, decorated with the cross, sculptured in the midst of foliage. All these crosses have been respected by the Mussulmans. The semicircular apse is lighted by five large windows, separated by columns, which rest upon a subbase. The pavement of the church is of white marble. At the east end of the nave there is a step, marking the position of the *iconostasis*, or choir-screen. The *atria* are marked by a difference in the level of the floor; their height, as we have said before, is the full height of the nave, and there is a triforium gallery, forming a tribune, no doubt reserved for a particular class of worshippers. The upper gallery, called *gynæconitis*, or *catachumene* for women, passes all round the church, over the narthex, and terminates at the two *atria*. The semicircular apse is covered with a hemispherical vault. This part of the church is at present deprived of all decoration; originally it must have been ornamented with mosaic pictures. The nave has an open oak roof, of very simple construction. The height of the lower order is 17 ft. 8 in.; that of the Ionic order is 12 feet. The general proportions of the whole are excellent. The capitals of the nave are executed with remarkable precision. They are not inferior in style to Roman capitals of the times of the Antonines. This circumstance is a proof of the antiquity of the edifice. . . . The church is lighted by means of small pieces of glass set in cement, in the form of lozenges and circles. This mode of lighting does not appear to have been altered in modern times. The general construction of the edifice is of brickwork, cased with marble."

As will be seen on reference to the plan, the church has a narthex, D, and atrium, E, at its western end. The narthex had originally, in all probability, an arcade towards the atrium. In the atrium still stands the

* This term is evidently incorrectly used; at least we know of no authority for its application in the sense here intended.

Byzantine cantharus, consisting of a sculptured marble basin surrounded by eight columns carrying arches. The portico round the atrium has been removed. The narthex is of simple construction, being merely a transverse porch or vestibule, the ceiling of which is formed by the floor of the gynæconitis; it has three lofty arches into the nave. The nave measures 145 feet 6 inches long, by 37 feet wide, and about 56 feet 6 inches high to the tie-beams of the roof. The inner ailes are about 13 feet, and the outer ailes 16 feet wide.



The mosque of Eski Djouma was a Christian basilica previous to the year 1430; its plan is of remarkable simplicity, with an external and

internal narthex, Fig. 28. The following description is given in *Byzantine Architecture*:—

"Eski Djouma is situated in the lower quarter of the town. It is completely shut in by the houses that surround it. The façade, which is towards the principal street, presents only a white wall without windows, with only a doorway in it. We enter into a transverse corridor (A, Fig. 26), 23 ft. 9 in. wide, where is placed the fountain of ablution, no doubt that used by the Christians. This corridor is the ancient *exo-narthex*; it has a lean-to roof, and appears to have had no ornamentation originally. Its north end gives access to a small garden which belonged to the cloisters. The *exo-narthex* is wanting in most churches of the second period, which were erected when Christianity had extended to all the principal towns of the Empire. From the *exo-narthex* we pass into a second passage (B) parallel to the first, the size of which is 93 ft. 6 in. by 18 ft. 7 in.; this is the *eso-* or *internal narthex*, which communicates directly with the nave. Formerly the internal narthex was separated from the nave by four columns, only united by a balustrade of marble (as shown on the plan); now the columns are engaged in a thick wall built by the Turks, through which the nave is entered by a square-headed doorway.

"The interior of the church consists of a nave (C) 119 feet long, terminating in a semicircular apse; to the right and left are colonnades of twelve columns, separating the aisles from the nave. The same arrangement is repeated upon the upper story, where is the gallery for women. . . . The semicircular apse is lighted by three windows; this was the mode adopted long before the dream of Justinian, in which an angel directed him to light the apse of his church by three windows, in honor of the Father, Son, and Holy Ghost. One of the marks of antiquity of this church lies in the fact that the side chapels, in which the sacred vessels were deposited, at the east end, are wanting: in the earliest times these were confided to the *neocoros*, and taken to the residence of the bishop. At the end of the south aisle of the church there is a niche or credence, ornamented with short Ionic columns, which served as the *receptaculum* for the holy vessels. The columns of the nave are of the Composite order, the shafts are monolithic, of white marble; the bases are Attic and without ornament.

"A wooden staircase leads to the upper gallery (*gynaecitis*): Twelve Ionic columns support the arcade, dividing it from the nave: these columns are now surrounded with masonry, but they all exist in position.

"On those parts of the arches which are not concealed by the plaster, mosaic decorations of excellent execution are to be seen; the subjects are, flowers, birds, and other ornaments on a gold ground. All the interior of the church was decorated, from the springing of the arches upwards, in the same manner. The few mouldings that exist are very simple; they consist of fillets, cavettos, and quarter-rounds, without enrichments. The roof of the nave is visible; it is constructed in the simplest fashion, like that of St. Paul without the walls at Rome.

"We do not believe that the church is anterior to the reign of Theodosius; but we may safely affirm that it dates from the beginning of the 5th century."

In conclusion, we may point out that during the middle ages the term "*basilica ecclesiæ*" was applied to the small chapels appended to churches, and sometimes, it appears, to the atrium or fore-court of a church; and that the term "*basilicæ*" was used to designate structures erected over important tombs, as Ducange distinctly informs us.* We

* *BASILICÆ* appellatæ *sediculæ* quædam, quas Franci nostri veteres magnatum tumulis inponebant, quod formam basilicarum seu *sedium sacrarum* referrent. Nam aliorum

also find that the term occurs in English documents with the latter signification; the following passages are quoted in the *Glossary*, alluding to the tomb of Edward the Confessor, in Westminster Abbey.

"A.D. 1269. 'fecit rex . . . super Sanctum novam *basilicam* fieri totam auro coopertam. . .'

Translation of the body of Edward the Confessor, in the Chronicle of the Mayors of London, edited by Stapleton, p. 117.

"Also, in 1270, John, eldest son of Prince Edward, is said to have been buried 'in Ecclesia Westmon' ex opposito *basilicæ* sancti Edwardi in parte aquilonali. . .'
Ibid. p. 114."

BASILISK. A fabulous creature which, according to the belief of the ancients, was produced from the egg of a hen thirty years old, hatched under water by a toad. The basilisk is described as of immense size, its body being that of a cock, beaked and clawed with brass, and its tail like the bodies of three serpents, armed with large arrow-shaped points. The glance of this creature was instant death to mortals, and the only way of killing it was to place a mirror in such a position that it could see its own image. On approaching the mirror it burst with horror and fear.

In Christian art the basilisk is the emblem of deadly sin and the Spirit of Evil. St. Basil the Great uses it as the type of a depraved woman. In mediæval sculptures animals resembling the ancient basilisk are frequently met with, but whether their artists intended them for that fabulous creature is by no means certain. An example may be seen in the curious sculptures in the crypt of Canterbury cathedral. It is probable that here the cockatrice is intended, another fabulous creature, half cock and half dragon, adopted by the middle age artists as the emblem of sin.

BASIN OR BASON. In its original and common signification, a circular vessel, of greater diameter than depth, used for containing fluids. The term is now applied to several objects, all of which, however, retain some likeness to the simple vessel. In hydraulic engineering it is used to designate an artificial reservoir, formed by excavating the ground and rendering it impervious to water. Such basins are usually constructed for ornamental purposes. Constructions of stone and cement, for the reception and display of water issuing from vertical or horizontal pipes, as in the numerous varieties of ornamental fountains, are also called basins. These assume any form or proportion their designers may prefer or circumstances dictate.

inferioris conditionis hominum sepulcris aut *tumba*, aut *porticulus* tantum superponebatur. Id colligitur potissimum ex Lege Salica tit. 58. § 3. 4. and 5. ubi, qui *tumbam* aut *porticulum* super hominem mortuum expoliaverit . . . solidos 5. Si quis vero *Basilicam* super hominem mortuum expoliaverit 30. solidis culpabilis judicatur. Ex quibus satis patet *Basilicas* tumulos magnatum spectasse, quarum etiam mentio est in tit. 71. ubi agitur de mulota illius qui *Basilicam* voluntario ordine aut fortasse per negligentiam incenderit. Unde eruunt viri docti ejusmodi basilicas ligneas fuisse, proindeque incendiis obnoxias."—Ducange *Glossarium*.

Basins were common articles of household and church furniture during the middle ages, and were made of the precious metals, copper, or latten, ornamented with repoussé, engraving, enamel, or niello. They were used from the early ages of the Church for collecting the alms and oblations of the faithful, and for several purposes of the altar. On these Walcott remarks* :—"Before the high-altar, and above the steps to it, were usually three basins of silver, hung by silver chains, with prickets for serges or great wax candles, and latten basins within them to receive the droppings; these tapers burnt continually, night and day, in token that the house was always watching unto God. Basins were used for carrying the cruets and the ewers for the ablution of the priest's fingers; they were usually in pairs, one being used for pouring, the other for receiving the water; thus we find one engraved with the mortal life and the second with the Divine life of Christ. The material was sometimes enamelled copper or silver gilt, and the embellishment was frequently of a heraldic rather than religious character. At Durham one basin and two cruets were used at a time. There is a beautiful basin of the time of Edward II., wrought with figures of a knight helmed by a lady at a castle gate, in St. Mary's, Bermondsey, which once belonged to the abbey there. Two enamelled basins of the thirteenth century, at Conques, are called *Gémellions*; one is used as a ewer, and the other as a jug." (basin?) "There was also a large basin for alms, usually double-gilt, used upon principal festivals, and a smaller one of less value for ordinary days. Alms basins of Flemish manufacture and latten are preserved at St. Margaret's, Westminster."

In several continental museums and church treasuries are preserved twin basins or *gémellions*, as they are called, one of which is plain and the other



1

furnished with a spout or biberon near its edge. The use of these basins was for some time uncertain, but is so no longer. They were used for washing the hands at table on occasions of ceremony, or during celebra-

* *Sacred Archæology*, p. 62.

tion at the altar; when not in use, one was placed as a cover over the other, that with the spout being undermost and partly filled with perfumed water; at the time of ablution the attendant raised the one containing the water, and poured a stream from the spout over the hands held within the hollow of the other basin. This usage is distinctly shown in the illustration (Fig. 1), which represents Pilate washing his hands; it is taken from a miniature in the *Emblemata Biblica*, a manuscript preserved in the Bibliothèque Impériale, Paris. The basins here are both without a spout.

The following remarks on these double basins, as used in the middle ages, from the pen of M. Viollet-le-Duc, cannot but be interesting to the archæologist:—

“ Les bassins à laver sont habituellement doubles ou accompagnés de leur aiguière, et ces ustensiles apparaissent dès la plus haute antiquité. Les sculptures et peintures de l'Égypte montrent des bassins à laver avec leur vase propre à contenir de l'eau. On en voit figurés sur les bas-reliefs de l'antiquité grecque et sur les peintures de leurs poteries. Les vignettes des manuscrits grecs des premiers siècles du christianisme indiquent la continuité de l'emploi de cet ustensile. Le beau psautier de la Bibliothèque impériale, qui date de la fin du ix^e siècle, dans la vignette qui représente la maladie d'Ezéchias, reproduit un de ces bassins à aiguière d'une composition remarquable. Cet objet paraît être de terre cuite, le bassin à laver est muni d'un goulot qui sert en même temps de manche, de manière à pouvoir vider le contenu dans un évier, sans avoir à craindre les éclaboussures. Ces goulots (biberons) se retrouvent adaptés à des bassins destinés à cet usage, pendant toute la période du moyen âge. En effet, on voit encore dans nos musées des bassins doubles (gémillons) qui datent des xii^e et xiii^e siècles, dont l'un est muni d'un orifice latéral. Tel est le célèbre bassin trouvé près de Soissons, et qui fait partie de la collection de la Bibliothèque impériale. Ce bassin est de cuivre rouge avec émaux champlevés. Les fonds sont bleus et les figures, qui représentent des joueurs d'instruments, se détachent en or sur ces fonds. Le goulot de vidange est en forme de tête de dragon. Les inventaires des trésors des princes mentionnent un grand nombre de ces bassins d'argent et même d'or. . . .

“ Dans l'inventaire du duc d'Anjou, dressé vers 1365, on ne compte pas moins de soixante grands bassins d'argent et de vermeil, parmi lesquels plusieurs sont émaillés et munis de *biberons*, c'est-à-dire de goulots. Ces bassins sont généralement désignés sous le titre de *bassins à laver sur table*. ‘Deux bacins d'argent, dorez dedenz et dehors, ensizelez les bors de menuz feuillages, et ou fons de chacun a un esmail ront d'azur sur lequel a. ii. papegaux (perroquets) vers, qui s'entreregardent, et tient chacun en son bec une longue feuille vert, et dessure leur testes a un serpent volant. Et en l'un d'iceux bacins a un biberon qui est d'une teste, et poisent en tout xi mars.’

“ A l'occasion de certaines cérémonies, ou pour donner à laver à table à de grands personnages, on devait donc se servir de deux bassins, l'un couvrant l'autre. Celui de dessous était seul muni d'un goulot et contenait l'eau à laver, dans laquelle on jetait des essences, de l'eau de rose, etc. Au moment du lavement des mains, ‘le maistre d'hostel appelle l'eschanson et abandonne la table et va au buffet et treuve les *bacins couverts* que le sommelier a apportés et apprestés, il les prend et baille l'essay de l'eauë au sommelier’ (c'est-à-dire fait reconnaître par le sommelier, dont c'est la charge, si l'eau est préparée comme il convient), ‘et s'agenouille devant le prince, et lève le bacin qu'il tient de la main senestre, et verse de l'eau de l'autre bacin sur le bord d'iceluy, et en fait créance et essay, donne à laver de l'un des bacins et reçoit l'eauë en l'autre bacin, et sans recouvrir les dits bacins, les rend au

sommelier.* Cette description explique clairement l'usage de ces bassins doubles si fréquemment relatés dans les inventaires. Dans ce cas, il n'était pas besoin d'aiguière. L'eau aromatisée était préparée dans l'un des bassins muni d'un goulot, l'autre bassin était placé sur celui-ci. L'échanson prenait de sa main droite le bassin du dessous, contenant l'eau, de la gauche il enlevait le bassin du dessus et versait l'eau du premier bassin dans le second par le goulot sur les mains du personnage auquel on donnait à laver; l'opération achevée, il passait au sommelier les deux bassins. Ainsi peut-on se rendre un compte exact de l'utilité de ces goulots (biberons) dont étaient munis certains bassins.

"Ce cérémonial n'était adopté que pour les princes. L'officier donnait à laver aux autres personnes en versant de l'eau d'une aiguière qu'il tenait de la main droite, sur leurs doigts; cette eau tombait dans le bassin qu'il soutenait de la main gauche."

BASINET OR BASCINET. A head-piece of steel, usually approaching a globular form, which succeeded the heavy heaume, or great helm, during the latter part of the thirteenth century, and was generally adopted during the fourteenth. Its early form was not unlike an inverted basin; hence its name. Boutell thus clearly describes this piece of defensive armour:—"The happiest innovation of all was abolition of the heaume, or great helm, and the substitution in its stead of the *basinet*, a smaller and lighter head-piece, which was somewhat globular in form, but was raised a little above the head, and terminated above in a point. The *basinet*, while always conforming to the general characteristics of its proper type, admitted many modifications in its form and contour. As it decidedly differed from the heaume, in being only a true head-piece without descending over the head and resting on the shoulders, notwithstanding the circumstance that it was often made in such a prolonged shape at the back and sides as to cover the neck of the wearer, the *basinet* was considered to be incomplete without having appended to it, and depending from it, a mail defence for the neck and shoulders, called the *camail*. This is the lower part of a mail coif, a hood, or a tippet of mail, which was fixed to the *basinet*, and hung gracefully over the shoulders, covering the upper part of the body-armour, but leaving the face bare. The defensive action of the *basinet* was completed by the further addition of an efficient protection for the face, which was accomplished by means of a piece that would completely close-in the open front of the *basinet* itself. This piece, called the *mesail*, or *mursail* (from the kind of resemblance it necessarily bore to the muzzle of an animal), but more generally known in England as the *ventaile*, or visor, was pierced for both sight and breathing, and was adjusted in such a manner that it could be raised or lowered, or could be altogether removed, at the pleasure of the wearer; and, as a matter of course, this visor was not lowered and secured in front of the face, except when the combat was imminent."

It was not until the fourteenth century that the *basinet* assumed its

* "Olivier de la Marche, *État de la maison de Charles le Hardy*. (Coll. des mémoires, Michaud, Poujoulat, t. III, p. 588)."

complete form; for nothing of the nature of the camail was added to the head-piece in the thirteenth century. In the early part of the twelfth century, however, we find the word used by Guillaume Guiart: "*Li yaumes et bascinez reluire.*" Generally, at this period, and indeed in England to the beginning of the fifteenth century, the absence of the ventaile caused the heaume to be used over the basinet during a combat. In England the basinet with the camail, but without the ventaile, continued in favour till the opening years of the fifteenth century. Fig. 1 is



1

from the fine brass of a knight, in Laughton church, Lincolnshire, date 1405, and represents the common form of the basinet, with its camail, which obtained during the greater part of the fourteenth century. In several brasses the heaume is also depicted, either placed above or under the head of the figure, as in the brasses of Sir John Harsyck (1384), Southacre church, Norfolk; Sir William de Bryene (1395), Seal church, Kent; Sir Nicholas Dagworth (1401), Hickling church, Norfolk; and figure of a knight (1404), in Sawtry church, Huntingdonshire. Basinets of the same description as those represented on these brasses are to be found in the effigies of Sir Humphrey de Bohun and Sir Richard Pembridge, in Hereford cathedral. A beautiful example is to be seen in the effigy of Edward the Black Prince (1376), in Canterbury cathedral. In this example the opening for the face is small, and the camail is large and spreads almost entirely across the shoulders. The basinet is high and pointed.

In English examples the camail was usually fastened to the basinet by a thong, or cord of silk, which passed through rings or projecting staples attached to the camail; these staples had holes cut for them at regular intervals round the edge of the basinet. This arrangement is represented in the effigy of the Black Prince. The cord and staples, which appeared

on the exterior, were sometimes covered with a richly wrought and jewelled band, as indicated in Fig. 1.

In Fig. 2 is given a drawing of a basinet in its perfected form, as worn in combat without the heaume.* Basinets, like other descriptions of head-



2

pieces, were frequently very richly ornamented with goldsmith's work and jewels. We find the following entry in the accounts of Étienne de la Fontaine, goldsmith to the king of France (dated 1352):—"Pour faire et forger la garnison d'un basinet c'est a savoir 35 vervelles 12 bocettes pour le fronteau tout d'or de touche et une couronne d'or pour mettre sur icelui basinet, dont les fleurons sont des feuilles d'espines, et le circle diapré de fleurs de lys. Et pour forger la couroye a fermer le dit basinet dont les clous sont de bousseaux et de croissettes esmaillées de France."

BASKET. In architecture, the term is sometimes used to designate the vase or *corbeille* of a Corinthian capital; probably in allusion to the legend handed down by Vitruvius. The term has, in some modern examples, been rendered appropriate by the exposed portions of the vase being sculptured in imitation of basket-work.

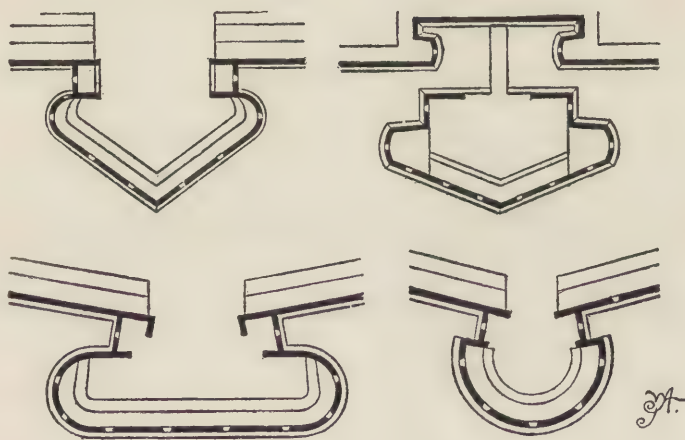
In Christian art, a basket containing different objects is the attribute of several saints. St. Dorothea, V.M., has a basket of flowers, or one containing three apples and three roses; St. Elizabeth of Hungary, Qu.W., a basket of roses; St. Joanna, Qu., carries a basket; St. John Damascen, C., a basket in his hand; St. Philip, Ap., a basket of bread; St. Rudbert, B.C., a basket containing eggs; and St. Sitha, V., carries a basket of fruit.

* This drawing is reproduced from one in M. Viollet-le-Duc's valuable work, *Dictionnaire Raisonné de Mobilier Français*, vol. v.

BAS-RELIEF OR **BASSO-RILIEVO**. (*Ital.*) A term used in Art to signify work executed in low relief, in which the figures or ornaments are just sufficiently raised from the ground to be distinctly seen. Speaking of bas-relief, Fairholt remarks :—"The sort of composition proper for bas-reliefs resembles that which is suitable for a picture, in the great number of characters which it admits, and in the mode in which they are disposed upon one, two, and three planes, profiling them one before the other, and realising, as painting does, the appearance and the effects of linear perspective ; on this account bas-relief has been called sculptured painting."

BASTIDA. The late Latin term for a fortress or place of defence ; and also used for a country house, probably when partly fortified.¹ The latter is its more modern signification. The French use the word **BASTIDE** for a fortress,² but in Provence it is also applied to the neat country houses so frequently to be seen in the vicinity of the principal towns. Ducange gives **BASTIA** and **BASTITA** as late Latin names for a fortress or tower.³

BASTION. In military architecture, the term used to designate a large construction, projecting beyond the face of a wall or curtain ; it was



generally of an angular form, with flanks to command the curtains on both

¹ "BASTIDA. Charta ann. 1204. in Regesto Carcasson. *Licentiam damus ut in locis idoneis quos elegeritis infra terminum prædicti pignoris, possitis novas Bastidas sive munitiones ædificare.*

"BASTIDA, Prædium rusticum cum mansione, Massiliensibus etiamnum *Bastide*. Instrum. an. 1223. ex cod. MS. D. Brunet fol. 67. recto: *Item statuerunt, quod apud Bastidam Bertrandi de Clareto sit quedam via publica.*"—Ducange. *Glossarium*.

² "BASTILLE ou BASTIDE, s.f. —Construction militaire du moyen âge, qui servait à l'attaque ou à la défense des villes fortifiées."—E. Bosc., *Dic. Rais. d'Arch.* For an exhaustive article on the bastide, see Viollet-le-Duc's *Dic. Rais. de l'Arch. Française*.

³ "BASTIA, BASTITA, BASTILE, Castrum, turris, propugnaculum, vulgo, *Bastie, Bastide.*"—Ducange. *Glossarium*.

sides of it. The bastion, which only came into true existence with the introduction of artillery, took the place of the towers of the earlier fortifications. The illustrations on the previous page show a few of the more common forms found in works of the sixteenth and seventeenth centuries.

In civil architecture the term has been adopted to designate projecting portions of a terrace round a mansion, which assume forms resembling the bastions of fortresses.

BATEMENT OR ABATEMENT. An old term, signifying the waste, or material removed, in forming any article out of a piece of wood or other substance. The term was generally used by carpenters.

BATEMENT LIGHT. A light, or vertical opening between the mullions of a Perpendicular traceried window, whose normal form has been altered through a portion being removed by the arched head of a lower light. Such is simply a light with a *batement*, the *batement* being the portion removed or cut away. In the accompanying illustration, the



chancel window, West Turning Church, Sussex, the openings marked A are the *batement* lights. B is the *batement*.

The term is met with in the contract for glazing the windows of the Beauchamp Chapel, Warwick, as given by Nichols. The following are the passages relating to the side and east windows :—

“South Windowes. In the south side of the chappell be three windowes, every windowe containeth vj lights. Every light containeth xxj foote. Item viij smaller *batem'nts* above; and every *batem'nt* containeth ij foote and a halfe. Item iiij angells; every of them half a foote and a quarter. Item ij hiest small lights; ether of them containing a foote and a halfe. Item all the katures; quarrelles; and oylements. So every of the said windowes containeth Clvj. . . In the est windowe be vij lights, of the which three in the middle, every of those containe in glasse xix foote. Also sixe *batem'nts* lights, every light containinge ij foote. . .”

BATH OR BATHS. (*Lat. Balneae, Thermae.**) When in the singular, this term is generally understood to signify a vessel or receptacle for water in which one or more persons may bathe at a time; it may contain cold or warm water. When used in the plural, it commonly signifies an establishment erected for the purpose of bathing, and furnished with all the appliances necessary for the full enjoyment of the luxury. Thus we may correctly speak of a marble bath, alluding to a receptacle formed of marble, which contains the water for bathing; and of the baths of Titus, of Caracalla, or of Diocletian, alluding to the immense and sumptuous thermal establishments built in Rome by those emperors.

In the earliest epochs of civilization there is little doubt that the bath resorted to by all classes was simply the clearest river, lake, or pool nearest at hand; the most shaded spots being selected during the intense heats of summer, and those most exposed to the sun during the temperate months. In cold weather, however, open air bathing could only be undertaken by the strongest and hardiest individuals. As civilization increased, and the first elements of luxury developed themselves, warm water bathing was introduced; and, as the water required to be artificially heated, a bath of special construction had to be provided and an apartment built for its reception; the latter was also required to protect the bather from the external cold air. The convenience of such an arrangement soon became evident, and another apartment was added, with a cold water bath for summer use, the apartment being so constructed as to prevent the entrance

* "*BALNEAE, Balineae, Balneum, Balineum, Thermae* (ἰσάμινθος, βαλανεῖον, λουετρόν, λουτρόν). These words are all commonly translated by our general term bath or baths; but in the writings of the earlier and better authors they are used with discrimination. *Balneum* or *balineum*, which is derived from the Greek βαλανεῖον (Varro, *De Ling. Lat.* ix. 68, ed. Müller), signifies, in its primary sense, a bath or bathing-vessel, such as most persons of any consequence amongst the Romans possessed in their own houses (Cic. *Ad Att.* ii. 3), and hence the chamber which contained the bath (Cic. *Ad Fam.* xiv. 20), which is also the proper translation of the word *balnearium*. The diminutive *balneolum* is adopted by Seneca (*Ep.* 86) to designate the bath-room of Scipio, in the villa at Liternum, and is expressly used to characterise the modesty of republican manners as compared with the luxury of his own times. But when the baths of private individuals became more sumptuous, and comprised many rooms, instead of the one small chamber described by Seneca, the plural *balnea* or *balineae* was adopted, which still, in correct language, had reference only to the baths of private persons. Thus Cicero terms the baths at the villa of his brother Quintus (*Ad Q. Frat.* iii. 1. § 1) *balnearia*. *Balneae* and *balineae*, which according to Varro (*De Ling. Lat.* viii. 25, ix. 41, ed. Müller) have no singular number, were the public baths. Thus Cicero (*Pro Cael.* 25) speaks of *balneas Senias, balneas publicas*, and in *vestibulo balnearum* (*Ib.* 26), and Aulus Gellius (iii. 1. x. 3) of *balneas Sittias*. . . . *Thermae* (θερμαί, hot springs) meant properly warm springs, or baths of warm water; but came to be applied to those magnificent edifices which grew up under the empire, in place of the simple *balneae* of the republic, and which comprised within their range of buildings all the appurtenances belonging to the Greek gymnasia, as well as a regular establishment appropriated for bathing (*Juv. Sat.* vii. 233). Writers, however, use these terms without distinction. Thus the baths erected by Claudius Etruscus, the freedman of the Emperor Claudian, are styled by Statius (*Sylv.* i. 5. 13) *balnea*, and by Martial (vi. 42) *Etrusci thermulae*. In an epigram by Martial (ix. 76)—*subice balneum thermis*—the terms are not applied to the whole building, but to two different chambers in the same edifice."—A. Rich, Jun., B.A., in *Dic. of Greek and Rom. Antiq.*

of the direct rays of the sun, while air was freely admitted. Here, then, in these two apartments, one with its cold and the other with its warm water receptacles, we have the simple beginning from which the great baths of imperial Rome proceeded in an unbroken chain of development.

The Scriptures give us no information as to the customs of the Jews with reference to bathing, and no baths are spoken of. Our ignorance is almost as complete as regards the Egyptians. No remains of baths have been discovered in Egypt, nor do paintings or sculptures throw any light on the subject. Wilkinson remarks:—"We have little knowledge of the nature of their baths; but as they were forbidden in deep mourning to indulge in them, we may conclude they were considered as a luxury, as well as a necessary comfort. The only instance I have met with in the paintings is in a tomb at Thebes, where a lady is represented with four attendants, who wait upon her, and perform various duties. One removes the jewellery and clothes she has taken off, or suspends them to a stand in the apartment; another pours water from a vase over her head, as the third rubs her arms and body with her open hands; and a fourth, seated near her, holds a sweet-scented flower to her nose, and supports her as she sits. The same subject is treated nearly in the same manner on some of the Greek vases, the water being poured over the bather, who kneels, or is seated on the ground. Warm as well as cold baths were used by the Egyptians, though for ordinary ablutions cold water was preferred." Such is the sum and substance of our knowledge; and unfortunately it leaves us absolutely in the dark as to whether or not the Egyptians had public baths in their cities, or private ones attached to their palaces and mansions.

The Greeks were great lovers of bathing, but do not appear to have, at any period of their history, constructed baths on a scale at all approaching the immense establishments of the Roman emperors. The Greeks used three kinds of baths—cold, hot, and vapour; they, however, preferred cold water bathing, as it was the most invigorating. The Lacedaemonians held the warm water bath to be effeminate and enervating, and daily bathed in the Eurotas during every season of the year; they also used a sudorific bath, taken in a dry chamber heated with warm air from a stove. The warm water baths were both natural and artificial; the former were the warm springs found in certain localities, while the latter were vessels either filled with warm water, or in which the bather knelt or sat while attendants poured the water over his body.*

* "The artificial warm bath was taken in a vessel called ἀσάμυνθος by Homer, and ἔμβασις by Athenaeus (i. p. 25). It would appear from the description of the bath administered to Ulysses in the palace of Circe, that this vessel did not contain water itself, but was only used for the bather to sit in while the warm water was poured over him, which was heated in a large caldron or tripod, under which the fire was placed, and when sufficiently warmed, was taken out in other vessels and poured over the head and shoulders of the person who sat in the ἀσάμυνθος. . . . The ἀσάμυνθος was of polished marble, like the basins (*labra*) which have been discovered in the Roman baths, and sometimes of silver."—A. Rich, in *Dic. of Greek and Roman Antiq.*

We know nothing of the dimensions or arrangements of the public baths of the early Greeks, although several authors clearly prove that they had such establishments. Some were built at the expense of the state, and others by private individuals; the latter were open to certain classes of the public, and the bathers paid a fee on entering. Such private baths are mentioned by Plutarch and Isaeus. Baths were also attached to the dwellings of the wealthy, for the exclusive use of their owners. In all these establishments cold and warm water and vapour baths were provided, and it was usual for two to be taken—a warm water or a vapour bath, followed by the cold bath. Baths were adjuncts invariably attached to the early gymnasia of the Greeks, and were probably similar in all essentials to the public bathing establishments.

Vitruvius (book v. cap. xi), in describing the form of the Greek palaestra, mentions the baths which formed part of the establishment. He says:—"Though not used by the people of Italy, it seems proper that I should explain the form of the palaestra, and describe the mode in which it was constructed by the Greeks. The square or oblong peristylia of palaestrae have a walk round them, which the Greeks call δίαυλος, two stadia in circuit: three of the sides are single porticoes: the fourth, which is that on the south side, is to be double, so that when showers fall in windy weather, the drops may not drive into the inner part of it. In the three porticoes are large recesses (*exedrae*) with seats therein, whereon the philosophers, rhetoricians, and others who delight in study, may sit and dispute. In the double portico the following provision is to be made: the ephebeum is to be in the middle, which is in truth nothing more than a large exedra with seats, and longer by one-third than its width; on the right is the coriceum, immediately adjoining which is the conisterium, near which, in the angle of the portico, is the cold bath, which the Greeks call λουτρόν. On the left of the ephebeum is the elaeothesium; adjoining that is the frigidarium, whence a passage leads to the propnigeum in the angle of the portico. Near, but more inward, on the side of the frigidarium, is placed the vaulted sudatory, whose length is double its width; on one side of this is the laconicum; on the other side is the hot bath."* Imperfect as this information is, it closes all our knowledge relative to the baths of the Greeks. What Lucian describes, as will be seen later on, are baths constructed in the Roman manner.

The earliest particulars we have on the subject of the arrangement and construction of the baths of the Romans are those of Vitruvius (book v. cap. x.) We give them *in extenso*:—

"The situation chosen for baths ought to be sheltered from the north and north-east. The caldaria and tepidaria should be made to receive their light from the winter-west: or, should local circumstances not admit of this disposition, they may both be made to face the south; because the general time of bathing is from mid-day until sun-set. One thing neces-

* Gwilt's translation.

sary to be observed is, that the caldaria of that division of the bath which is appropriated to the women should be contiguous to that exclusively used by the men, and have the same aspect; for then the coppers of both may be heated from the same furnace.

“ Three brazen vessels are fixed over the furnace, which are severally called caldarium, tepidarium, and frigidarium: they are so arranged, that whatever heated water is taken from the first, is replaced by warm water from the second; the deficiency of which is supplied, in a similar manner, from the third. The concave coverings of the small tubes of both baths are likewise heated from the same furnace.

“ The insulated stages of the caldaria are thus constructed. The floor is made inclining towards the furnace; so that if a ball were placed upon any part of it, it would not remain at rest, but take a direction towards the mouth: by which means the flame will more easily pervade the interval between the floor, which is paved with tiles a foot and a half square, and the suspended stage. Upon the floor earthen props, eight inches each way, are arranged at such intervals as to receive upon them square tiles two feet in length: the props are two feet in height; the tiles which form them are cemented with clay and hair mixed together: the square tiles which they support form the substratum of the pavement of the caldaria.

“ It is desirable that the roofs of the caldaria should be constructed with masonry; but when formed of timber, the ceilings must have a covering of tiles; which may be thus effected. Rings or cramps of metal are made and fixed to beams of the ceiling at equal intervals, and so far asunder, that tiles, without margins, may rest upon two: in this manner the entire ceiling, supported by iron-work, is completed. The joints of the tiles above should be covered with clay mixed with hair; and the lower surface of the ceiling first coated with a composition of lime and pounded tiles, and afterwards made smooth with stucco. The work will be more perfect if the ceilings of the caldaria are made double: for then whatever vapour escapes through the first will never penetrate to the wood-work, and thereby occasion its decay; but will be condensed and carried off in the void interval between the two ceilings.

“ The magnitude of the bath must be proportioned to the population of the place: but in all instances its dimensions should be such that the width, exclusive of the schola of the bath and the passages around, may be a third part less than the length. The bath should receive its light from the upper part of the apartment on every side; so that persons who are standing around may not intercept the light from those who are using the bath.

“ The schola of the labrum should be sufficiently spacious to accommodate those who are obliged to wait until the bath is unoccupied. The alvei between the walls and the pluteum ought not to be less than six feet, of which space the lower step and the bench occupy each two.

“ The laconicum and sudatories should be contiguous to the tepidarium: the height of the latter from the floor to the line whence the hemispherical

roof springs, should be equal to their width. The air is admitted through an aperture in the centre of the roof, from whence a brazen shield is suspended by chains.

“The temperature of the sudatory is regulated by elevating or lowering the shield. The plan of the laconicum should be circular, in order that the flame and heat within it may be equally diffused over its concave surface.”*

Pliny† mentions the arrangements of the baths attached to his Tuscan villa. After his interesting description of the other portions of the residence, he says:—“There is then the winter cubiculum extremely warm, as it is filled with the full sun; attached is the hypocaust, and if the day be cloudy, its emitted vapour supplies the place of the sun. Then the apodyterium receives in its cold cell him relaxed and joyous from the bath. In this is a plunging bath (*baptisterium*) wide and deep. If you wish to swim at more ease and in warmer water, in the area there is a piscina, and in the next a puteus, if you would again be cleansed (*abstergi* may be read, rather than *astringi*) if you dislike the weather. He then states there are ‘cellae frigidariae,’ cold rooms, a ‘sphaeristerium,’ or tennis-court over the apodyterium, and then he proceeds with an account of the rest of the villa. A description of his other villa at Laurentinum is given (lib. ii, 17). In the midst of the minute details of this villa is the mention of ‘cold baths (*baptisteria*) in which you may swim if you wish. Next to this the anointing-room and the hypocaust, and next to the bath the stokery (*propnigeon*) then a warm bath, whence the swimmer may look on the sea. Next to this the tennis-court,’ etc. etc.

“The description of the baths erected by Hippias must not however be passed over quite so lightly. It is given by Lucian in a tract under that head. He commences by stating how few men there are, and how much they are to be commended, who shine in more than one art or science, and then praises Hippias as one who was at once celebrated as an orator, writer, mathematician, mechanic, musician, and architect. He then enters upon a long relation of the baths erected by him. After describing the difficulties of site and foundation, he says, ‘a large common hall (*οἶκος*) receives those who enter, fit for the footmen and servants to wait in; on the left are chambers fitted up for lounging (*ἐς τρυφήν*). These, he says, are excellently fitted up with plenty of light near the baths, and suitable for the genteeler (*ευδαιμονεστέρων*) people [in fact first-class waiting-rooms]. After these, and beneath, are sufficient receptacles for taking off clothes, *διαρκῆς τοῖς ἀποδυομένοις ἀποθέσεις* (dressing boxes). A middle hall of great height, superbly lighted, holds three swimming baths (*κολυμβήθρας*) of cold water, adorned with Lacaean marble. In this are two antique statues of white marble—Health and Esculapius. Entering thence, a hall, gradually

* *Civil Architecture of Vitruvius*. Translated by William Wilkins, M.A. London, 1812.

† *Epist. lib. v. 6*.

warmer, receives you with a not unpleasant heat, of long form, and arched throughout. Then, on the right, is a hall containing every variety of ointments, having entrances below ornamented with Phrygian marble leading to the palaestra. Then another hall, the most elegant of all, fitted to stand or sit in, to wait a long time or to 'roll oneself about in' (ἐγκυλισσασθαι) of polished Phrygian marble to the very top. Within is the hot bath (θερμὸς) of Nomad-stone. Inside of which is a beautiful hall, full of light, and as it were flowered with purple. In this are three hot baths (πυέλους). There is no need to return by the other halls, but directly by the cold room (or bath) ψυχρὸν, through the gently warm (tepid) bath (ἡρέμα θερμοῦ).''*

We may now leave the unsatisfactory descriptions of ancient authors, which give us very little information on the subject of the baths of their times. Had it not been for the important remains, spared to us, of the thermae of Titus, Caracalla, and Diocletian, and the fortunate discovery of the baths of Pompeii, in an almost complete state, we should know scarcely anything of the bathing establishments of the Romans, in their full development. Before drawing attention to the plans of ancient baths, we may briefly describe the chief portions of a complete thermal establishment.

The public entrance usually led into a court surrounded with a portico, similar to the domestic atrium or peristyle; here the keeper of the baths (*balneator*) sat and received the quadrans † paid by each visitor on entering.

Opening from the portico were exedrae—recesses with seats round their walls for the convenience of persons waiting for the bath, or for conversation, similar in all essentials to the exedrae of the Greek palaestra, mentioned by Vitruvius. The first apartment entered by the bather was the apodyterium, or spoliatorium; here he undressed and gave his clothes into the care of the capsarii, or slaves, whose duty it was to see them safely deposited in the lockers or presses with which the room was furnished. Whether the apodyterium, when solely used for undressing in, was warmed, does not appear certain: it is probable, however, that as the bathers stripped themselves naked in this apartment, it was warmed to a comfortable temperature during the colder months of the year. Vitruvius does not mention this apartment, and on that account it has been held by some authorities that the apodyterium was not a distinct room, but merely a sort of dressing-box, fitted up in the frigidarium. In the smaller establishments, such as Vitruvius describes, it is highly probable that the apodyteria were simply dressing-boxes placed round the walls of the

* *Essay on Baths and Washhouses*, by Ashpitel and Whicheord. (Arch. Pub. Soc. Lond.)

† "The price of a bath was a quadrans, the smallest piece of coined money, from the age of Cicero downwards (Cic. *Pro Cael.* 26; Hor. *Sat.* i. 3. 137; Juv. *Sat.* vi. 447), which was paid to the keeper of the bath (*balneator*); and hence it is termed by Cicero, in the oration just cited, *quadrantaria permutatio*, and by Seneca (*Ep.* 86) *res quadrantaria*. Children below a certain age were admitted free. (Juv. *Sat.* ii. 152.) Strangers, also, and foreigners, were admitted to some of the baths, if not to all, without payment."—A. Rich, in *Dic. of Greek and Roman Antiq.*

frigidarium, as appears to have been the case in the baths at Pompeii; but it is reasonable to suppose that, in large establishments, a room would be specially set apart for undressing and dressing, if for no other reason than to prevent inconvenient crowding. This room would naturally be designated the apodyterium, a name derived from the *αποδυτηρια* of the Greeks, signifying the place where the clothes were left. Pliny, however, speaks of the apodyterium in connexion with the baths at his Tuscan villa. In the words,—“then the apodyterium receives in its cold cell him relaxed and joyous from the bath: in this is a plunging bath wide and deep”—one can only realise the fact that the apodyterium and frigidarium were one and the same apartment in his private baths. Such an arrangement would obviously commend itself where only one or two persons would bathe at a time. Lucian does not directly mention the apodyterium, but he speaks of dressing boxes in which the bathers' clothes are taken off and left. These appear to have adjoined the frigidarium in the baths of Hippias.

The frigidarium was the cooling room, through which the naked bather passed on his way to the warmer apartments of the *thermae*, and to which he returned after having taken the vapour and warm water baths—the cold cell which receives him relaxed and joyous from the bath, as Pliny puts it. In some instances the cold bath (*frigida lavatio*) was placed in this apartment; and it was probably on this account that we find the cold bath itself called the frigidarium. In establishments of any importance, however, a cold bath (*baptisterium* or *frigida natatio*), large enough to receive the entire bodies of several bathers at one time, was constructed in another apartment, opening from the frigidarium. This was the case in the baths of Pompeii, which we shall describe later on. The cold water bath varied considerably in form and dimensions; sometimes being only intended for plunging in, and at others constructed of sufficient size to allow the bathers to swim about with perfect comfort. In the larger Roman *thermae* there were both plunging baths and swimming baths of large dimensions, as will be seen on reference to the plan given of the *thermae* of Caracalla. Opening from the frigidarium was a small apartment for cold anointing, called the *elaeothesium frigidarium*. Those who only indulged in cold bathing went no further than the apartments above enumerated; those who were to take the hot baths also undressed in the apodyterium, or frigidarium, and passed thence into the tepidarium.

The tepidarium was an apartment simply heated by flues from the furnace, or by warm air, to an agreeable temperature. Here the bather lingered awhile, so as to prepare his body for the greater heat of the hot bath and the vapour of the *concamerata sudatio*. After the sweating and hot water bath, the bather returned to the tepidarium, heated and relaxed; here he again lingered until his temperature was so far reduced as to render it safe for him to enter the frigidarium either to take a cold bath or resume his clothes. No bathing vessel appears to have been placed in the tepidarium of the baths of Pompeii; but in large establishments there appear to have been tepid water baths placed in the several apartments

which were used as tepidaria. The order in which the hot water and the sweating or vapour baths were taken does not appear to have been a settled matter among the ancients; it was doubtless left to the caprice of each bather, who was perfectly free, after entering the *thermae*, to proceed as he felt inclined at the time. After being sufficiently prepared by the warm air of the tepidarium, the bather, if he desired to take the hot water bath before undergoing the sweating process, entered the *caldarium*, which usually opened directly from the tepidarium.

In the *caldarium* was placed the hot water bath (*calda lavatio*, *balineum*, or *labrum*). This vessel was sometimes in the form of an elevated basin or vase of marble, and at others, especially when of large dimensions, it was partly sunk under the level of the floor, built and lined with marble. The shape of the vessel was dictated by the plan of the *caldarium*. In the baths of Pompeii it is oblong, whilst the great *balineum* of the *thermae* of Caracalla was circular. The *caldarium* was a vaulted apartment, lighted from above, and so constructed as to allow the temperature to be raised or lowered by the regulated admission of cold air from the exterior. It was heated by a hypocaust, generally extending from that of the *sudatorium*, and probably sometimes by hot air flues in the walls. The *labrum* was supplied from a boiler, or from a tank heated by a hypocaust and surrounding flues. The arrangement of the brazen vessels for heating the water, described by Vitruvius, is quite unintelligible, and need not be dwelt upon here.

We now come to the last important apartment of the ancient *thermae*, namely, the *concamerata sudatio*, *sudatorium*, or *laconicum*.* This apartment appears to have usually been circular, or of some form approaching a circle, in plan, and to have been covered with a hemispherical dome or vault. Vitruvius evidently alludes to a circular apartment in speaking of the hemispherical roof. He also speaks of the plan of the *laconicum* being circular, so that the flame may easily and equally surround it, and that the heated air may radiate from all parts alike. Here we come to a question which has exercised several commentators, and one we are not in a position to set at rest; we allude to the true meaning of the word *laconicum*. It has been held by some, including Cameron and Galiano, that the *laconicum* was a small construction, terminating in a cupola, rising from the floor of the *sudatorium*, and opening into the hypocaust or furnace below; that it was inserted in the apartment for the purpose of radiating intense heat on all sides and keeping up the required high temperature

* "The *Laconicum* or vapour bath, so called because it was the custom of the Lacedaemonians to strip and anoint themselves without using warm water after the perspiration produced by their athletic exercises. (Dion Cass. liii. p. 516, comp. Martial. *Epig.* vi. 42. 16.) It is termed *assa* by Cicero (*Ad Quint. Frat.* iii. 1 § 1), from *ἄζω*, to dry; because it produced perspiration by means of a dry, hot atmosphere; which Celsus (iii. cap. ult.) consequently terms *sudatione assas*, 'dry sweating,' which he afterwards adds (xi. 17) was produced by dry warmth (*calore sicco*). It was called by the Greeks *πυραιτήριον* (Voss. *Lex Etym.* s. v.), from the fire of the hypocaust, which was extended under it; and hence by Alexander Aphrodis, *ξηρὸν θολόν*, 'a dry vaulted chamber.'"—A. Rich, in *Dict. of Greek and Roman Antig.*

without a great expenditure of fuel. There is no doubt that such a construction would have proved efficient, but we hardly think, bearing in mind how perfectly the Roman architects understood heating by the hypocaust and circulating flues, that it could have been found necessary. A construction of the kind, almost red-hot, in an apartment filled with naked persons, would have been most disagreeable and indeed dangerous.* It is true that in a painting, discovered in the baths of Titus, a section of a domical construction is indicated at one side of the *concamerata sudatio*. This construction, the supposed *laconicum*, has a fire inside it, rising from the hypocaust; and over it is a hemispherical covering, suspended by a chain, the *clipeus*. At what period and with what view this painting was executed are of course quite unknown to us. It was painted in all probability a century after Vitruvius wrote his treatise, and perhaps it was executed, from his description, to show the persons who visited the splendid *thermae* of Titus what insignificant constructions the baths of their forefathers were. While the general idea for the painting was probably derived from Vitruvius, it was arranged by the artist so as to show all the apartments in a sectional form.† With reference to the object under which the word "*laconicum*" appears, it may have originated in an incorrect understanding of Vitruvius' description, which, in truth, is anything but clear. We cannot do better, after what we have said on this question, than quote the apt remarks of Mr. Rich:—"It would not be proper to dismiss this account of the *Laconicum* without alluding to an opinion adopted by some writers, amongst whom are Galiano and Cameron, that the *Laconicum* was merely a small cupola, with a metal shield *over* it, rising above the flooring (*suspensura*) of the chamber, in the manner represented by the drawing from the *thermae* of Titus, which drawing has, doubtless, given rise to the opinion. But it will be observed that the design in question is little more than a section, and that the artist may have resorted to the expedient in order to show the apparatus belonging to one end of the chamber, as is frequently done in similar plans, where any part which required to be represented on a large scale is inserted in full development within the general

* Wilkins gives the following note to his translation:—"The plan of the *laconicum* should be circular, in order that the flame and heat within it may be equally diffused over its concave surface." NOTE.—"Vitruvius here alludes to the plan of the *laconicum*, and not to the shield and the aperture through which the air is admitted. The painting found in the baths of Titus exhibit a *laconicum* of a circular form within the *sudatio concamerata*. According to this the *laconicum* forms part of the sweating bath, and seems there intended for the purpose of warming it. By attending to the construction of the passage, the meaning of Vitruvius may be rendered sufficiently clear. '*Laconicum sudationesque sint conjungendae tepidario. Eaque quam latae fuerint, tantam altitudinem habeant ad imam curvaturam hemisphaerii, mediumque lumen in hemisphaerio relinquatur, ex eoque clypeum aeneum catenis pendeat, per cujus reductiones et demissiones perficietur sudationis temperatura; ipsumque ad fieri circinnum oportere videtur.*'" With all due deference to Mr. Wilkins' opinion, we cannot quite see that his deduction is at all warranted by the text of Vitruvius.

† A good drawing of this painting is given in the *Essay on Baths and Washhouses*. Arch. Pub. Soc. Lond.

section ; for in none of the numerous baths which have been discovered in Italy or elsewhere, even where the pavements were in a perfect state, has any such contrivance been observed. Besides which it is manifest that the *clipeus* could not be raised or lowered in the design alluded to, seeing that the chains for that purpose could not be reached in the situation represented, or, if attained, could not be handled, as they must be red-hot from the heat of the hypocaust into which they were inserted. In addition to which, the remains discovered tally exactly with the directions of Vitruvius, which this does not."

The sudatorium was heated by a hypocaust under the floor, and by flues or tubes in the surrounding walls. The mode of constructing the hypocaust and the floor of the sudatorium above it, described by Vitruvius, was practically that adopted by the Romans in all their baths. In the large thermal establishments of the Empire all the water required for the baths in the numerous caldaria was heated in immense tanks by hypocausts and tubular walls ; a fact which appears to us at the present day almost incredible, especially when we bear in mind the gigantic nature of the works. On this subject, the remarks in the *Essay on Baths and Washhouses* are well worth giving here :—" It is now proposed to turn to what in these times is called the *engineering department*. Like everything else the Romans did, this was carried out in a far more vast and striking manner than would be at first supposed. It is now found difficult, even with best Low-moor plate boilers and all the appliances of modern science, to keep baths going for one hundred persons. Conceive, then, what it must have been in the baths of Diocletian, where 1,800 persons were accommodated at once. Let the mind be made up to listen to something out of the way, and be told that all this mass of water was boiled in brick chambers, put together with lime and hair, and lined with tiles bedded in the same ; that there are the remains of a set of these chambers, twenty-eight in number, below (or as a ground story), covered with twenty-eight other chambers as a sort of first story, and containing two millions and a quarter cubic feet, or nearly fourteen million gallons, all heated by one furnace forming a basement ; that such a building would actually cover more ground than Exeter cathedral, and would hold as much water as that entire building, transepts included, if filled to within nine feet of the ridge rib of the groining, and that this mass of water was boiled without apparent difficulty ; an idea of the castella of Antoninus can be imagined, and also some faint idea formed of Roman engineering. What are the dye or print works of the present age to this ? The boiler power at the largest foundries or factories is a plaything to it.

" The furnaces have been carefully described in the above-cited passage from Vitruvius, and seem to have been constructed so as to be best adapted for burning wood. The ash is a simple alkaline powder (the *xovia* of the Greeks, of immense value to the ancients, as the method of separating soda or potash from chlorine was unknown), a powder which could easily be swept away by a broom, unlike the soot from coals : no fire bars or bridges

were wanted; a simple paved floor with a slight incline to give a draught was all that was necessary. In fact, it was like the bottom of a country oven. But how simple piers of brick in pottery clay and hair, and simple tiles, and a sort of trowelled concrete floor on this, could bear at once the vast heat of the fire, a weight of water of many tons to the foot, and the expansive power of the boiling fluid, besides the wear and tear of constant flame, is wonderful indeed. However, there are the Roman hypocausts to this day, and the united labours of Piranesi and of Cameron (*Baths of the Ancients*, fol. London, 1772) have proved to demonstration this is no fable.

“Of course these are the *suspensurae* of Vitruvius. At Pompeii, instead of 8 in. square piers 2 ft. high, they are 9 in. square and only 1 ft. 7 in. high. They support strong tiles 15 in. square; on these is the *signinum opus* (or Fox and Barrett concrete), and then where they are visible, as in the laconicum, a mosaic pavement is bedded upon it. Every wall and every pavement was perforated by square earthen tubes, fitting into each other, through which the flame and smoke circulated and afforded as much heated surface as possible. The invention of the *suspensurae* has been attributed to the Sybarites; be that as it may, it was evidently new in the time of Seneca. That author (*Ep.* 90) speaks with wonder of the things discovered in his memory, as window panes made of talc; the *suspensurae* of the baths; and the ‘tubes impressed within the walls,’ through which heat might circulate equally above and below.”

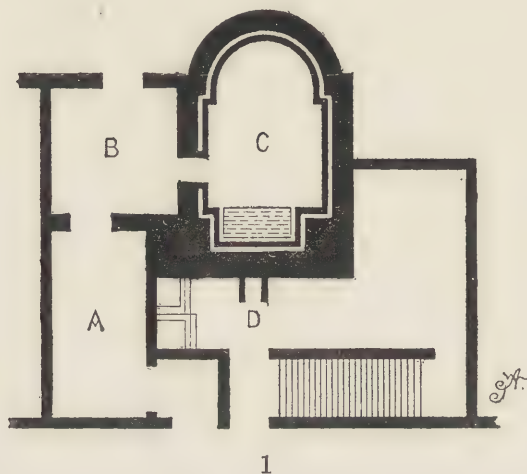
In concluding our remarks on the sudatorium, we have only to allude to the means adopted for controlling the temperature within. The aperture in the centre of the hemispherical vault under which the brazen shield (*clipeus*) was suspended by chains, as described by Vitruvius, was doubtless the usual means for regulating the air of the interior; when the shield was lowered, heated air would rush out and fresh cold air descend in considerable quantities; when it was raised almost to close the opening, the internal air would become nearly stationary and, accordingly, rapidly rise in temperature. The only light in this apartment appears to have come from the central opening; but probably in a large building small openings, covered with talc or glass, were distributed over the dome. Light, however, was not an important matter in the sudatorium.

The last apartment strictly belonging to the baths was the *elaeothesium*, *unctuarium*, or anointing room; here the bathers resorted after all the processes of sweating, washing, and scraping with the strigil had been gone through. After the body was thoroughly cleansed and rubbed dry, perfumed oils or ointments were rubbed over its entire surface by attendants, called *unctores* and *aliptae*. In small establishments the *elaeothesium* usually formed part of the *apodyterium* or the *tepidarium*, but in the larger *thermae* it was an important apartment, in which the slaves waited to anoint their masters, and where the *unctores* belonging to the establishment attended to those bathers who had no slaves of their own. The *elaeothesium* was fitted up with shelves and cupboards for the jars and bottles of per-

fumes, oils, and ointments. The wealthy and fastidious bathers had their own special perfumes and unguents brought and applied by their slaves. All the usual kinds, however, were kept in the *elaeothesium*, and could be obtained on payment.*

The following short descriptions of the plans of ancient Roman baths, of which remains have reached our day, will fill up what may be deficient in the foregoing particulars; our very limited space prevents our discussing matters more fully. The plans which we give may be accepted as those of representative examples.

We shall begin with one of the simplest known examples, namely, the baths of a villa supposed to be on the site of the ancient *Stabiae*, about three miles south of *Pompeii*. It will be seen on reference to the accompanying plan, Fig. 1, that they comprised three apartments only; A was

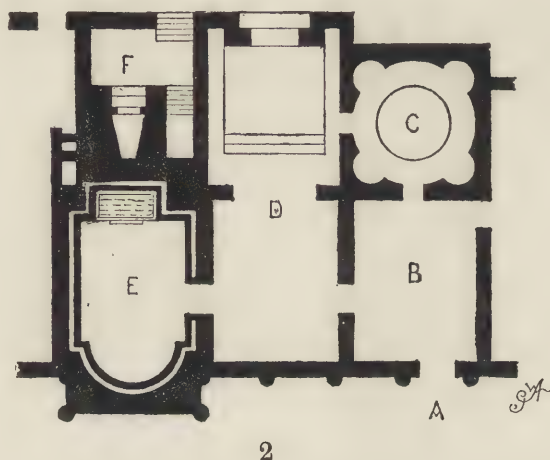


the *frigidarium*, which also served as the *apodyterium*; B, the *tepidarium*, opening from the *frigidarium* and communicating with the *caldarium*, C. The latter apartment is similar in plan to the *caldarium* of the smaller public baths of *Pompeii*, having a semicircular recess at one end, serving for the *sudatorium*, and an oblong hot water bath or *balineum* at the other. The furnace which supplied the hypocaust and heated the water for the *balineum* was placed in the *præfurnium* or stokery, D. These baths may perhaps be accepted as a type of the generality of the better class of

* "The ancients had an astonishing number of oils, soaps, and perfumes; and their wash-balls seem to have had the general name of *smegmata*, a word derived from the Greek. Among the oils are named the *mendesium*, *megalum*, *metopium*, *amaracinum*, *cyprinum*, *susinum*, *nardinum*, *spicatum*, and *jasmine*; and *Heliogabalus* never bathed without oil of safron or *crocum*, which was thought most precious . . . The rich carried their own most precious unguents to the *thermae* in phials of alabaster, gold, and glass, which were of such common use, both in ordinary life and at funerals, that they have very frequently been found in modern times, when they acquired the name of *lachrymatories*, from a mistaken notion concerning their original destination."—Sir William Gell. *Pompeiana*.

private baths erected during the Empire.* There does not appear to have been any cold water plunging-bath constructed on the floor of either the frigidarium or tepidarium: in this instance a movable vessel may have been used.

Not far from these baths, remains have also been discovered of an establishment on rather a larger scale, approaching nearer in arrangement to the public baths of Pompeii. A plan of this establishment is given in Fig. 2. The entrance was from a portico at A, which probably surrounded

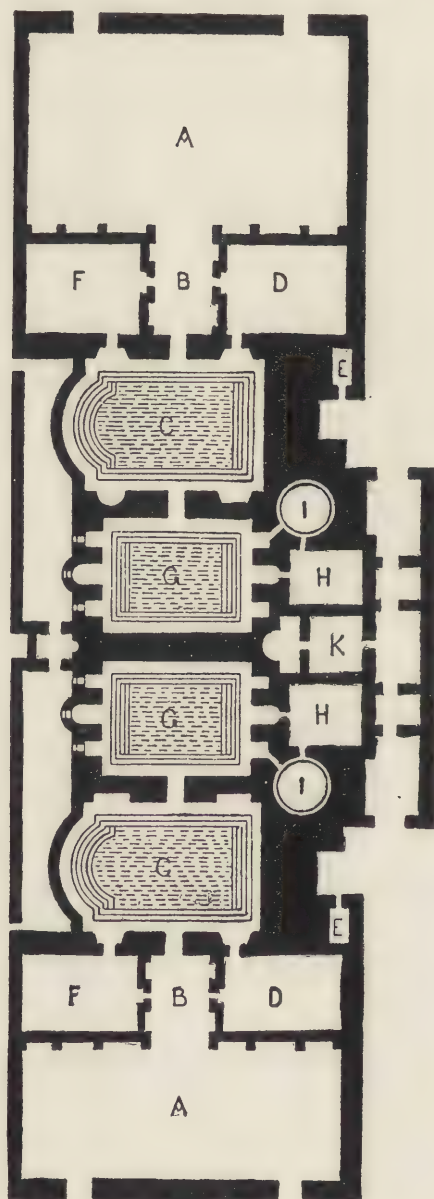


a court or atrium; it admitted visitors directly into the apodyterium, B, an oblong apartment of moderate dimensions. A door at the other end gave access to the frigidarium, C, a circular chamber with the baptisterium or frigida natatio in its centre; and four semicircular niches, formed in the corners of the walls, for the convenience of persons waiting for the bath. Doors, both from the apodyterium and frigidarium, opened into the tepidarium, D, an apartment of considerable size, and one end of which was probably used as the elaeothesium. The caldarium, E, was constructed in precisely the same manner as that of the private baths, Fig. 1. The præfurnium, F, was, as usual, immediately adjoining the caldarium.

Before proceeding to describe the interesting baths of Pompeii, we may give the plan of the Roman baths at Badenweiler, reproduced from that given by Rode in the Berlin edition of Vitruvius, and copied by Wilkins in his translation. The plan, Fig. 3, shows two sets of baths, one for men and the other for women. The entrances were made from the courts, A, through small vestibules, B, into the frigidaria, C. Attached to these, and opening both from the vestibules and frigidaria, were two chambers, D,

* "The destruction of the cities of Herculaneum, Pompeii, and Stabia (Stabia only existed as the site of some villas, 'Sylla delevit quod nunc in villas abiit.'—Pliny) took place, according to Pliny the Younger, who was an eyewitness of that catastrophe, August the 24th, in the second year of the emperor Titus, or A.D. 79.—Sir William Gell.

which appear to have been warmed by hypocausts, fed from furnaces at E, and two chambers, F; these were in all probability warm and cold elaeothesia. In the centre of the frigidaria were large cold baths. Doors led



3

from these apartments into the tepidaria, G, in which were tepid water baths. Recesses at both ends were constructed for the retirement of bathers. From the centre recess at one end of each tepidarium a door

opened into a caldarium, H. A vaulted sudatorium, I, adjoined each caldarium, and could be entered either from it or from the tepidarium. The praefurnium was at K. The arrangement of these baths, as will be seen by the plan, is as compact and convenient as could well be devised.

The smaller baths of Pompeii, of which the plan is given in Fig. 4, were excavated in the year 1824: they convey a perfect idea of what the lesser public bathing establishments of the Romans were, about the beginning of our era. They appear to have been constructed during the nine years between the year A.D. 70 and that in which the city was destroyed.* The baths are situated behind the temple of Jupiter, north-west of the forum: they occupy the greater portion of what the Romans called an insula, that is, a block of buildings entirely surrounded by streets. What appear to have been shops and dwellings extend round the baths on nearly three entire sides. Entrances are provided from the Strada del Foro, on the north-east; the Strada delle Terme, on the north-west; and the Vicolo delle Terme, on the south-west. There are six entrances in all.

For facility in description, the baths may be divided into three departments:—1, the baths for men; 2, the baths for women; and 3, the heating department.

The men's baths, which occupy more than half the entire area, have three entrances; two of which, A and B, give access to the court or atrium, D (*vestibulum balnearum*); the third, C, leads directly into the apodyterium, F. The principal entrance appears to be that from the Strada del Foro, A—a passage at the end of which is a small apartment, G, where, in all probability, the balneator sat to receive payment from the visitors as they entered. The secondary entrance, B, has the latrina, H, adjoining it; this was most likely used only by those who, on entering or leaving the baths, wished to visit the latrina. The court, D, has a Doric portico on two sides, and a species of crypto-porticus on the south-east side. Opening from the portico is an exedra, E, which is supposed to have been used for conversation, or as a waiting room for visitors. The entrance is arched, and the exedra itself is vaulted. Sir William Gell tells us that it was lighted at night by a lamp, so placed that its rays also fell into the tepidarium, K, and that this lamp was protected by circular convex glasses, the fragments of which were found in the inner apartment at its excavation. The same author says:—"In the Doric portico persons waited for admission to the *thermae*, which were not of sufficient size to admit conveniently more than twenty or thirty at once. Here, therefore, notices of shows, games, exhibitions, or sales, might conveniently be exposed to the public."

* "An inscription in the court, on the right of the entrance, in great part effaced, recorded the dedication of the baths at the expense of Gnaeus Alifius Nigidius Majus, and the games and entertainments which took place in honour of the event in the amphitheatre, combats of animals and gladiators, scattering perfumes, and the luxury of an awning, *vela erunt*, being especially mentioned. As Nero's interdiction of theatrical amusements did not expire till the year 69, it is inferred from this inscription that the dedication took place but a short time before the destruction of the city."—*Handbook for South Italy*.

From the north corner of the portico, a corridor leads into the first apartment or apodyterium, F; this corridor was decorated, its ceiling being found covered with stars. The apodyterium was also entered directly from the Strada delle Terme through the passage, C. The passage, L, was most probably for the attendants only. Gell's description of the apodyterium, as it appeared a few years after excavation, conveys a satisfactory idea of the apartment. He says:—"In the room (F) those who frequented the *thermae* for the purpose of bathing met, whether they entered by



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the portico, or from either of the doors from the street on the north; and here was certainly the frigidarium, in which many persons took off their garments, but more especially those who intended to make use only of the natatio, or cold bath. To them, at least, this chamber served as the spoliatorium, apodyterium, or apolyterium, so called from the *Αποδυτηρια* of the Greeks, signifying the place where the clothes were left, and, accordingly, we may observe, on entering, certain holes in the wall, in which have either been inserted rafters or pegs for supporting shelves, or for hanging garments.

"The chamber itself, which is spacious, is vaulted, and the arch springs from a projecting cornice covered with a richly coloured painting of griffins and lyres. The ceiling appears to have consisted of panels of white within red borders, and the pavement of the common sort of white mosaic. The walls were painted yellow. Stone benches occupy the greater part of the walls, with a step running below them, slightly raised from the floor. It is probable that a window once existed at the north, like that now remaining at the south end; but in no case could this, or any other room in the Pompeian *thermae*, answer to the description of the wide windows of the *frigidarium* of the author, who says, '*Frigidarium locus ventis proflatus fenestris amplis.*' The yet remaining window admitted light from the south, and is placed close under the vault of the roof, and rather intrenching upon it; it was not only formed of glass, but of good plate glass, slightly ground on one side so as to prevent the curiosity of any person upon the roof. This glass was divided by cruciform bars of copper, and secured by what might be termed turning buttons of the same metal. Of this glass all the fragments remained at the excavation, a circumstance which appeared not a little curious to those who imagined that its use was either unknown, or very rare among the ancients, and did not know that a window of the same kind had been found in the baths of the villa of Diomedes. In the semicircular compartment containing the window was a large basso relievo in stucco, of which the subject appeared to be the destruction of the Titans by Jupiter, or perhaps by Saturn, whose colossal head appeared in the centre. Bacchus was one of the great assistants of Jupiter in that combat; and the cup of Bacchus, or one of the same shape, appears on the right, as if thrown at the Titan. The subject is at present scarcely intelligible, having suffered much in the reparation of the roof." A small oblong room, M, placed at the north end of the apodyterium, was probably used as an *elaethesium*; or, as Gell suggests, "it might possibly have served for keeping the unguents, strigils, towels, and other articles necessary for the accommodation of visitors." At the opposite end of the apodyterium, a door gives access to a circular apartment, N, in which is the baptisterium, or *frigida lavatio*. This apartment may properly be termed the *frigidarium*. Speaking of this bath-room, Gell remarks:—"This is perfectly preserved, and nothing but the water is wanting, which anciently gushed from a copper pipe opposite the entrance, about four feet from the floor, and fell into the cistern, being supplied by pipes yet to be traced from the great reservoir near the *prae-furnium*. This apartment is a circle enclosed by a square, in the angles of which are four alcoves, called by the ancients *scholae*, a word derived from the Hebrew, and signifying repose.* Some have given the name *schola* to the platform round the bath in which visitors waited, but there seems little doubt that the *schola* was generally

* It is very questionable if Sir William Gell has sufficient authority for applying the term "*Scholæ*" to the four recesses in this apartment. Vitruvius uses the word, but evidently for the platform which surrounds the bath (*scholæ laborum*).

a hemicycle connected with that platform. The diameter of the circle is eighteen feet six inches. Round the whole runs a walk, or ambulatory, two feet four inches and a half wide. The piscina, or vase itself, is twelve feet ten inches in diameter, and has a seat eleven inches wide surrounding it at the depth of ten inches below the lip, and two feet four inches from the bottom, allowing a depth of water equal to about three feet. There was a channel to get rid of the superfluous water, and a low step at the bottom to assist in getting out of the water. The alcoves, or *scholae*, are five feet two inches wide, by two feet half an inch deep. Their arches, which rise to the height of one foot eight inches, spring from a point five feet six inches above the floor. The whole of the piscina, or *natatio*, with its seat or step, the pavement of the *scholae* or ambulatory, is of white marble, and in perfect preservation.

"The roof is a dome, or rather a cone, of which a small part of the summit is destroyed, having, in fact, risen above the accumulated soil of so many centuries. It appears to have been painted blue, and had an opening or window near the top toward the south-west, possibly not glazed, as, being a cold bath, the increase of temperature was not required. The walls have been painted yellow, with certain branches, here and there, of green. The walls of the alcoves were blue, and the *concas* or *coves*, and the arches have a pretty relieved border in stucco. About eight feet from the floor, a cornice runs round the whole, nearly eighteen inches high, coloured red, and adorned with stucco figures representing, in all appearance, the course on foot, on horseback, and in chariots."

A door from the *apodyterium* leads directly into the *tepidarium*, a long oblong apartment rather less in width and length than the *apodyterium*. This apartment was more richly decorated than any other portion of the baths, probably because, from its genial temperature, it was more frequently resorted to by the bathers. The pavement is of white marble mosaic, with two narrow borders of black. The vault is semicircular, and at the time of its excavation was found covered with elaborate coloured decoration. The cornice round the apartment is supported by small atlantes, which rest on a bold projecting ledge or shelf.* The recesses between the figures were probably used by the bathers for holding their garments when they undressed here previous to taking the hot baths. The walls were originally painted a deep red. The vault was decorated with geometrical compartments, containing figures, chimerical animals, and

* "This cornice begins at four feet three inches above the pavement, and is one foot two inches and a half high, the abacus, which is five inches and a half, included. Above this, the figures, with the entablature, rise to the height of three feet five inches more, and above these is the flowery Corinthian tracery" (scrollwork). "These figures are about two feet in height, stand upon little square plinths or dies of three inches high, and hold their arms in a posture fitted for assisting the head to bear the superimposed weight, much as the giants in the temple of the Olympic Jupiter at Girgenti were ingeniously shown by Mr. Cockerell to have done. They are of terra cotta, and stand with their backs placed against square pilasters projecting one foot from the wall, and with an interval of one foot three inches and a half between each."—Sir William Gell. *Pompeiana*.

ornamental devices. In this apartment were found three seats of bronze, about six feet in length, and a brazier (*foculus*), constructed of bronze and iron, about seven feet long by two feet six broad. The tepidarium was heated by a fire of charcoal in this brazier, and by a hypocaust in continuation of that of the caldarium. It was lighted by a window at the end, in the same manner as the apodyterium; in addition to which, openings must have been provided for the escape of the fumes from the burning charcoal.

We now come to the last and most important apartment of the men's baths, the caldarium, O. It is entered by a door from the tepidarium. The apartment is rather more than twice its width in length, and has a semicircular apse projected from one end, which may be designated the sudatorium; at the other end is an oblong hot water bath, constructed of white marble. The following description is taken from Sir William Gell's *Pompeiana*:—"This apartment, for the use of those who frequented the hot baths, is entered by a door opening from the tepidarium, which closed by its own weight, and, it is probable, was generally shut, to prevent the admission of cold or less heated air. This chamber, though perhaps not decorated with all the art displayed in the tepidarium, possibly because the constant ascent of steam would have destroyed the colours of the ceiling or vault, is, nevertheless, delicately ornamented with mouldings of stucco, which have an elegant and beautiful effect. The walls are painted yellow, with pilasters and cornice in red, and the alcove is prettily decorated with coloured panels, or compartments, in relief, generally painted alternately in blue and red, and adorned with figures.

"Not only is the pavement suspended in the manner recommended by Vitruvius, but the walls are so constructed that a column of heated air encloses the apartment on all sides. This is not effected by flues, but by one universal flue, formed by a lining of bricks or tiles, strongly connected with the outer wall by cramps of iron, yet distant about four inches from it, so as to leave a space by which the hot air might ascend from the furnace, and increase, almost equally, the temperature of the whole room. Some parts of this casing having fallen, the whole of this admirable contrivance is now apparent; and the pavement having, in some places, been forced in, by the fall of some part of the vault, the method of suspending it was, at the period of the excavation, sufficiently visible.

"The most striking object in the apartment is the labrum (P), placed in the centre of the alcove which forms one extremity of the caldarium. This consists of a vase or tazza of white marble, not less than eight feet in diameter, and, internally, not more than eight inches in depth. In the centre is a projection, rising from the bottom, in the middle of which a brass tube has thrown up the water, which, judging from the customary process in an oriental bath, was probably cold, or as nearly so as was judged expedient for pouring upon the head of the bather before he quitted this heated atmosphere. Andreas Baccius, who has written and collected much of what the ancients have left us on the subject of baths, says, that

some labra existed made of glass; and he very sensibly concludes, that all the great tazza of Rome, like that at present on the Quirinal, were originally the labra of the public or private baths of the city. Ficoroni mentions labra in Rome of basalt, granite, porphyry, and alabaster, and observes that many of these had a lion's head in the centre." Speaking of the hot bath at the other end of the apartment, he adds:—"From the pavement of the caldarium, which was of white tesserae, with two small borders of black, bathers ascended by two steps so as to sit down conveniently upon the third or marble wall, one foot four inches broad, which formed the brink of the vase or vat of hot water. Thence one step dividing the whole depth of the cistern, not exceeding two feet and half an inch, permitted them to immerse themselves by degrees in the heated fluid. The whole length of the cistern is fifteen feet, and the breadth four. About ten persons might have sat upon the marble pavement, without inconvenience, at the same moment, immersed in the hot water. It is evident, from the shallowness of this cistern, that persons must have sat on the pavement in order to have been sufficiently immersed, and accordingly, the side next the north wall is constructed with marble, sloping like the back of a chair in an angle well adapted to the support of the body in that position. Hot water entered this bath at one of the angles, immediately from the caldron which boiled on the other side of the wall.

"The seats in this chamber were probably of wood, as the whole must have been constantly in a state of humid heat, which would have corroded furniture of bronze, like that in the tepidarium.

"In that portion of the vaulted roof yet remaining are no fewer than four openings for the admission of light, and the transmission of hot air and vapour. These must have been glazed, or closed with linen windows, called *vela*, for it was probably previous to that common use of glass which evidently prevailed at Pompeii, that the brazen shields, or circular shutters, mentioned by Vitruvius as hanging by chains, for the purpose of opening and shutting the windows of the laconicum or sudatory, were necessary. It appears, from that author, that these shields were lowered to open, or raised to close, the circular openings in the roof of the laconicum. Over the labrum is seen one of these circular windows.

"It may be supposed that, in an establishment so small as this at Pompeii, this inner room, or caldarium, might unite in itself more than one of the numerous appellations in use in the Roman capital. The caldarium seems to be the hot bath, the absolute vessel of hot water, the *λουτρον* or *lavacrum*; but this was always close to the laconicum. 'Ex laconico aditus in caldarium.' The words, however, caldarium, vaporarium, sudatorium, and laconicum, seem to have been often indiscriminately used, to say nothing of hypocaustum, which, at Pompeii, applies equally to the tepidarium, and signifies, in fact, any chamber heated by subterraneous flues."

Although there is no authority for deciding that the lesser suite of

chambers, Q, R, S, T, were the women's baths, yet this portion of the establishment has generally been looked upon as that set apart for females. As Gell points out:—"Bonucci, in his instructive work, has imagined these to have constituted the male *thermae*; but only from a sentiment of modern gallantry which would assign to the ladies the handsomer apartments; whereas it would appear that a smaller and less airy suite of chambers would have been equally convenient for the women, who did not, like the men, spend half their lives at the bath, but only frequented it for the purposes of health or cleanliness." It is highly probable that ladies of rank and refinement did not visit the public baths at all, but enjoyed the luxury of bathing daily in private baths attached to their mansions.

This portion of the baths at Pompeii requires but little description. The bathers entered from the street into a small apartment, Q, supposed to have been used for storing and drying the towels and such garments as the women were accustomed to wear while bathing; here also the attendant received the entrance fees. From this vestibule, as it may be called, a door opens into a lobby and passage which leads to the *frigidarium*, R, at one end of which is the cold bath. This apartment was probably also used as the *apodyterium*, although the inner apartment or *tepidarium* may have been preferred for undressing in. The *frigidarium* is about twenty-five feet long by twelve feet nine inches wide. Its floor is of white mosaic, with a narrow black border. The walls have originally been painted dark blue or black, relieved with yellow pilasters. The vault is semicircular.

The *tepidarium*, S, is a vaulted apartment with a suspended floor, connected with the hypocaust of the *caldarium*. The walls were painted with yellow panels surrounded by borders of red. A small window, high in the wall, gives a subdued light to the apartment.

The *caldarium*, T, has a suspended floor, the furnace of which is supposed to have existed in the deep recess on the right hand, of course at a lower level than the general floor, and to have been fed with fuel from the interior. At the north end of the apartment is a recess containing the *labrum*. This, like the other chambers, is vaulted.

From the ruined state of the furnaces and water cisterns, and the absence of all save certain indications of the positions of the boilers or caldrons, it is impossible to form any correct idea of the heating arrangements and water works of these baths. Gell gives some remarks of an interesting nature; but what he says, following Vitruvius, about superimposed caldrons, the uppermost of which contained cold water whilst the lower one was boiling, must be accepted with caution. Our knowledge of the movements of heated fluids renders it extremely difficult for us to understand this example of Vitruvian engineering. The positions of the caldrons and water cisterns are indicated at U, V, on our plan. The space, W, was probably used for the storage of wood, the only fuel employed in the ancient *thermae*.

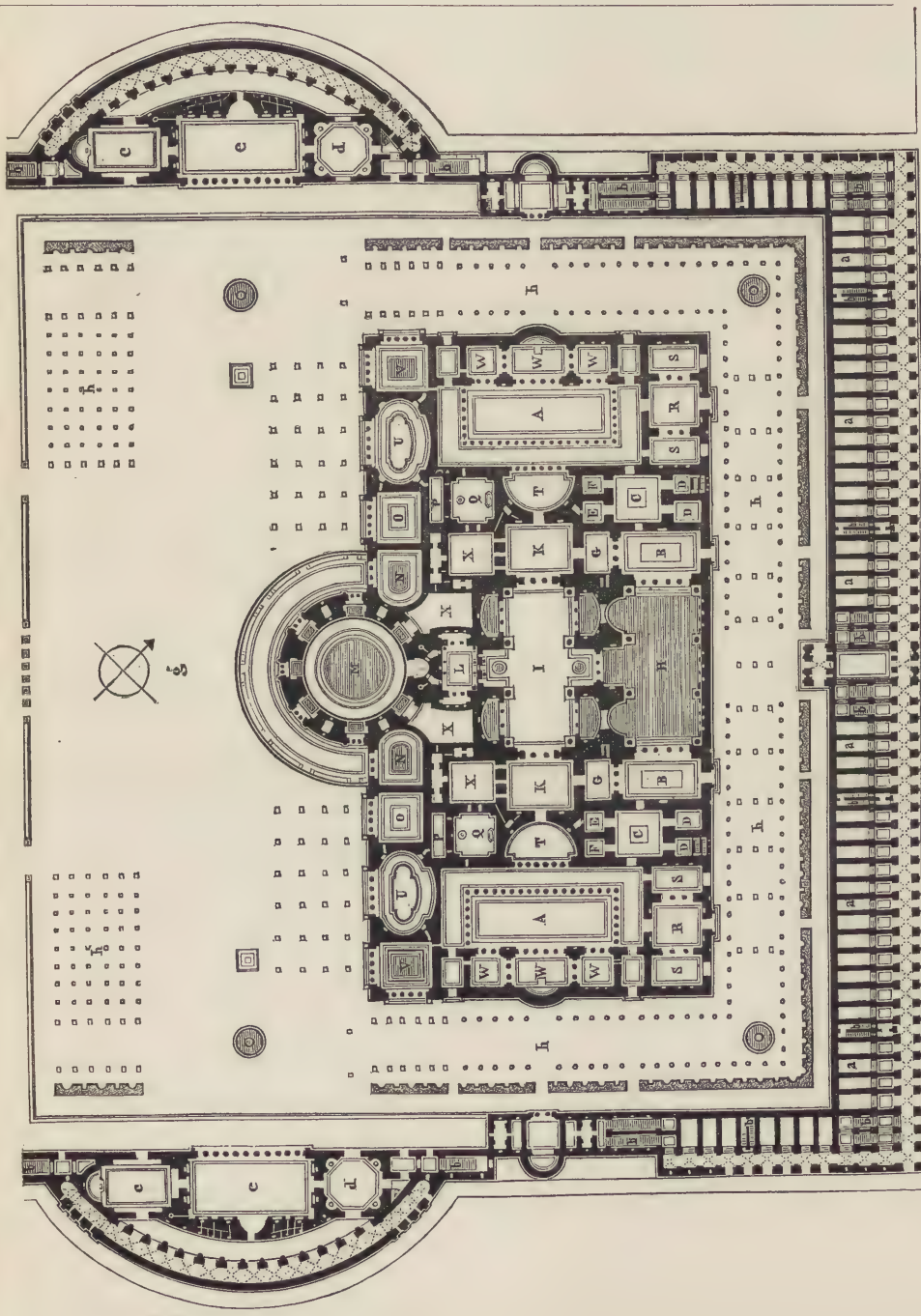
In the year 1858, the greater *thermae* of Pompeii, or the *thermae Stabianae*, were discovered, and their excavation commenced. These baths are on a much larger scale than the lesser baths just described; but, beyond their extent, there is little difference in their general treatment to call for special notice here; they have, however, a feature which is absent in the lesser baths, namely, a swimming bath, of oblong form, which occupies one side of the court or atrium. There are also separate rooms provided for private baths.*

From the style and character of certain inscriptions found in these baths, it is conjectured that they date from about a century and a half before the destruction of the city.

We now come to the baths of imperial Rome, selecting for illustration the *thermae* of Caracalla, the arrangement of which, thanks to the labours of Cameron and Blouet, have been satisfactorily made out. The accompanying plan is taken from that given in Blouet's great work;† and,

* The following short description, from the *Handbook for South Italy*, will not be uninteresting to the reader:—A wide portal opens "into an extensive court or palaestra, which is surrounded by Doric columns painted to resemble fluting. The walls are covered with paintings, stucco arabesques, and figures in relief, one of the latter, a Jupiter, being in good preservation. This court was probably intended for athletic sports and exercises. Along its left or west side is a raised strip of tufa pavement, on which were found two large and heavy stone balls, no doubt intended to be rolled along it in some game. On the left of this court as we enter is an oblong basin for a natatio or swimming bath, communicating by four marble steps with two elegant halls, on the walls of which are paintings of landscapes and of female figures carrying baskets. The southernmost of these halls leads into another room, probably the *destrictarium*, where the rubbing with the strigil took place. In the wall opposite the entrance is a door leading to a complicated series of halls, which may have constituted the division for females; if we except a square room, surrounded by a channel, probably a general latrina. A large room to the right is the *apodyterium*, with two passages to the side streets of the *Stabiae* and of the *Lupanare*, that to the latter having, with a square cold bath at one end, several small rooms for single baths. Leading out of the *apodyterium* is a *tepidarium* with niches and seats, having a square *frigidarium* at one end; from this a door leads into a large *caldarium*, having a square marble bath and an elegant fountain at one end and a circular *laconicum* at the other. The floor and walls are hollow for the passage of hot air. All these rooms are more or less decorated with stucco ornaments of considerable elegance, and communicate with a series of thermal halls which occupy the whole side of the great area of the *thermae* towards the street of *Stabiae*, and constitute the men's division of the baths. First of all, continuing from the women's rooms, are three circular sunk spaces, which appear to have been connected with the furnace and boilers for the supply of hot water and vapour to both sets of baths; then a long *caldarium*, followed by a *tepidarium*, the stuccoed walls of which have an elegant frieze of the prows of galleys; in these two halls are oblong basins, lined with marble, at one end, and circular *laconica* at the other; the floor is raised on supports formed of tiles to permit the circulation of heat from furnaces which open into the passage in the rear; the walls also are hollow, being covered with large tiles, leaving a space of three inches wide for hot air to circulate. We now pass into the *spoliarium* or *apodyterium*; it is surrounded by marble seats and a range of niches to contain the clothes of the bathers. This *spoliarium* was richly decorated with stucco reliefs, and divided into three portions by as many cross arches. Separated from it by a raised step is a handsome hall, probably a waiting-room covered with paintings, now much effaced, and opening on one side into a circular *frigidarium*, with a dome and circular opening at the top, and on another into the palaestra from which we started."

† *Restauration des Thermes d'Antonin Caracalla à Rome*, par G. Abel Blouet. Paris, 1828.



although not complete in its south-west portion, it is sufficient for our present purpose. The portion omitted comprises the castella or water cisterns which supplied the baths, elevated seats for those who viewed the games in the *zystus*, courts, and apartments for the use of the *athletae*.

The principal entrance to the establishment was in the centre of the north-east façade; this conducted from the outer vaulted portico, which extended the entire length of the façade, to groves or plantations, *h*, carried round three sides of the main buildings, and terminating in the *zystus*, *g*. The apartments, *a*, opening from the portico, were bath rooms for those who preferred to bathe in private. There were two stories of these rooms, the upper story being reached by the several stairs, *b*. At each end of the *zystus* was a partly enclosed court for gymnastic exercises, *e*; attached to which was what are supposed by Cameron to have been an academy, *c*, and a hall for discussions, *d*. The latter apartments were connected by curved porticoes. Two *exedrae* opened from the groves opposite the ends of the main buildings. The *thermae* proper were entered from the groves by four principal doorways in the north-east façade, and four lesser lateral doors. The principal doorways opened into large vestibules, *B*, divided by columns only from the great *frigidarium* with its swimming bath, *H*. Inner lobbies, *G*, led from the vestibules to the apartments, *K*, at each end of the central hall or great *tepidarium*, *I*. The other doors opened into vestibules, *R*, attached to which were apartments for conversation, or perhaps waiting rooms, *S*.

The *frigidarium* was an uncovered apartment, about one hundred and seventy-six feet long by seventy-five feet wide, exclusive of the recesses on its south-west side. The swimming bath occupied its entire area, and was entered by steps from the vestibules, *B*, and the central hall. The central hall, or great *tepidarium*, *I*, was vaulted and elaborately decorated; it measured about one hundred and eighty feet by seventy-eight feet, exclusive of large lateral recesses. In four of these recesses were baths, probably of tepid water; and in the central ones were large circular *labra* or fountains. From the central recess, on the south-west side, doors gave access to a smaller *tepidarium*, *L*, most probably of a higher temperature than the central hall; and introduced with the view of assisting the body to bear the still greater heat of the *caldarium*, *M*. Warm baths were provided in the lateral recesses of this small *tepidarium*. The adjoining portions, marked *X*, were open courts for light and air, and also for stoking the furnaces which heated several cisterns, shown in the thickness of the walls. Two entrances, protected by double doors, gave access from the intermediate *tepidarium*, *L*, to the great *caldarium*, *M*. In the centre of this circular apartment, which was about one hundred and fifteen feet in diameter, was constructed the large *balineum* or hot water bath; and in the recesses round the circumference of the apartment were smaller baths, in all likelihood supplied with water of a different temperature from the central basin.

Returning to the façade of the building, it will be seen on reference to

the plan that the vestibules, R, led into large peristyles, A, the porticoes of which extended round three sides. Opening from these were large semicircular exedrae, T; opposite which, on the sides where there were no porticoes, were suites of apartments, W, the use of which is rather uncertain; they were probably ephedia, or rooms in which young men exercised. Opening from the south-west portico of each peristyle was a suite of six apartments. The first apartment, V, was a frigidarium, containing a square cold water plunging bath; the second, U, was uncovered, and probably used as a place for exercise in fine weather; the third, O, was a covered apartment for exercise when it rained; the fourth, N, appears to have been a tepidarium, communicating with the great caldarium, and having a bath in its floor; the fifth, P, was a small room of warm temperature, for the purpose of preparing the body for the great heat of the sudatorium, or last apartment of the suite, Q. The apodyteria of this immense establishment were conveniently situated at C, immediately accessible from the four principal vestibules. Opening from them were rooms, D, for keeping the clothes of the visitors; elaeothesia, or anointing rooms, E; and conisteria, or rooms in which the youths about to wrestle were anointed and sprinkled with sand, F.

Portions of the thermae were of two stories in height, but nothing is known as regards the use to which the upper apartments were put. The staircases shown from the rooms, D, probably led to apartments in which ranges of lockers were constructed for holding the bathers' garments; considerable accommodation must have been required in this department.

The castella, or water cisterns, which supplied the baths, covered an area of ground measuring about sixteen hundred square yards. The cisterns were sixty-four in number, constructed in two stories, and vaulted throughout. The lower range was heated by a hypocaust extending under the entire floor, and by flues constructed in the dividing walls. The upper cisterns were probably heated slightly by the ascending wall-flues, and perhaps also by steam brought in contact with the water from the lower cisterns: accordingly, the water in the upper cisterns would be suitable for the tepid baths. In what manner the upper range was connected with the lower, if connected at all, is to our minds very doubtful; we are strongly of opinion no connexion existed which would allow the heated water to ascend and accordingly circulate. For further remarks on this subject, see article *Castellum*.

The thermae of Caracalla covered a site measuring about eleven hundred feet square, exclusive of the castella, projected from its south-west side. According to Olimpidorus, they accommodated sixteen hundred bathers at a time.

The following list contains the names of the principal thermae built during imperial times, and the approximate dates of their erection.

THE THERMAE OF AGRIPPA	..	..	built	B.C. 24
„	NERO	...	„	A.D. 65

THE THERMAE OF VESPASIAN	...	...	built	A.D. 68
"	TITUS	...	"	" 80
"	TRAJAN	...	"	" 110
"	HADRIAN	...	"	" 120
"	COMMODUS	...	"	" 188
"	CARACALLA	...	"	" 212
"	ALEX. SEVERUS	...	"	" 229
"	DECIUS	...	"	" 250
"	AURELIAN	...	"	" 272
"	DIOCLETIAN	...	"	" 302
"	CONSTANTINE	...	"	" 325

Remains of the thermae of Agrippa still exist, from which their dimensions have been made out; they occupied a space measuring about nine hundred feet by nine hundred and fifty feet. Some antiquarians have believed the Pantheon to have formed the entrance-hall to these thermae, but this is by no means an established fact; it is very doubtful if the rotunda is so old as the portico in front of it, which, according to the inscription on its frieze, was erected by M. Agrippa, in his third consulate (B.C. 27).

The thermae of Titus, of which considerable remains have been found, are stated to have occupied a space measuring about eleven hundred and fifty feet by eight hundred and fifty feet. The most interesting objects brought to light were numerous elaborate arabesques, beautifully painted on walls and ceilings. Drawings of these have been published; and fortunately many of the originals still exist in tolerable preservation. Raphael carefully studied these paintings, and received that inspiration which found its embodiment in the arabesque decorations of the loggie of the Vatican. (See *Arabesque*.)

The thermae of Diocletian were the largest of all the baths of Rome; situated between the Quirinal and Viminal hills, they covered an area of one hundred and fifty thousand square yards; and are stated to have been capable of accommodating three thousand two hundred bathers at one time. "The ruins, with the buildings surrounding them, cover an area nearly a mile in circuit, including all the space at present occupied by the Piazza di Termini, the Carthusian convent and its gardens, the convent and gardens of San Bernardo, the public granaries, and prisons. The buildings occupied a rectangular space, having in front a semicircular theatridium, with two circular halls at the angles, which opened into the area, but the use of which it is difficult to determine. Both of these latter still exist: one forms the modern church of San Bernardo; the other, situated at the corner of the Via Viminale, is much dilapidated, and has been converted into the vestibule of the prisons. Between them is the theatrum, in some parts of which may still be traced the seats for spectators who wished to enjoy the exercises of the palaestra, held in the level arena, now the Piazza di Termini. Between the theatrum and the

two circular halls, just described, is the supposed site of the libraries, to which the literary collections of the Ulpian basilica had been removed. The main portion of the *thermae*, properly speaking, formed an oblong square in the centre of the area. The principal entrances were on the north and south, opening from the streets leading to the *Porta Viminalis* and *Porta Collina*. The great central hall was converted by Michel Angelo into the noble church of *Sta. Maria degli Angeli*. Between the cloister and the church are some other ruins, of gigantic size, built of red brick-work, with rows of corbels in stone. Some of the halls still retain part of their vaulted ceilings of immense span."¹ A plan of these *thermae* is given in the *Essay on Baths and Washhouses*, already alluded to.

After the time of Constantine no public bathing establishments of any importance appear to have been constructed; indeed, Christians from the first rather shunned the *thermae*, fearing the temptations which they presented.² Bathing, however, was not to any great extent abandoned on this account; indeed, later on it became, in part, a religious ceremony; and special baths were provided in connexion with certain churches, for the use of those who were about to be baptised, and also for the priests on stated occasions. The *Lib. Pontif.* contains several notices of baths connected with churches. Of what form or extent these baths were is unknown to us, but they were probably of no great size, and of the simplest character. Constantine introduced the practice of constructing such baths, for he built a bath-house adjoining the great church he founded in Constantinople (*Euseb. Vit. Const.* iv. 59). Popes and bishops followed his example, building baths in connexion with the larger churches of Rome, Ravenna, Pavia, and other important cities.³ A bath-house was a usual adjunct to Benedictine and some other monasteries. One existed at Canterbury.

¹ *Handbook of Rome*, 1881.

² "The common use of baths throughout the Roman Empire presented to Christian converts a special difficulty and danger. The habits of the time had given a marked preference to the *thermae*, or hot-air baths, such as we now know as 'Turkish,' and neither these nor the *balneae* (swimming or plunge baths) were to be had in their own houses. To give these up was to sacrifice comfort, and, it might be, health, and yet to go to them was in many cases to run the risk of moral contamination. The feeling of the older Romans, which hindered even a grown-up son from bathing with his father (*Cic. De Off.* i. 35; *Valer. Max.* ii. 17), had died out, and in the *thermae* of all large cities were to be found crowds of men and boys, frequently of women also, sitting naked in the *tepidarium* or *laconicum*. It lies in the nature of things that in a society corrupt as was that of the Empire, this, even without the last-named enormity, must have brought with it many evils, foul speech and fouler acts. It might have seemed at first, as if those who were seeking to lead a purer life would have had to renounce the habit altogether, as they renounced the obscenities of the mimes, and the ferocities of gladiatorial shows. It is noticeable, however, that the rigorism of early Christian life never reached this point. Doubtless, in every city, there were establishments of different grades, and the Christian could choose those which were conducted with greater decency."—Rev. E. H. Plumptre, M.A., in *Dic. of Christ. Antiq.*

³ "Baths were used by the faithful before Communion, by catechumens before Baptism, with the use of the strigil and perfumes, and by the clergy on the eves of festivals. The latter had by the grant of Theodosius the right of sanctuary; and Constantine having built one at Constantinople, near the Apostle's church, St. Hilary Damasus, and Adrian I. followed

Of the arrangement of Turkish baths (*hummâms*) it is almost unnecessary to speak; they present no features which have not existed in the *thermae* of imperial Rome. They commonly comprise a waiting room, which usually combines the *apodyterium* and *frigidarium*; a warm apartment into which the bather first enters after undressing, the *tepidarium* of the ancient *thermae*; and the sweating room, the *sudatorium* or *laconicum*. To these one or two minor chambers, for washing, rubbing, &c., are added. The subject of purely modern European bathing establishments is quite outside the limits which have, in all possible cases, to be observed in a Work like the present. For plans and description of Turkish baths, see the Architectural Publication Society's *Essay on Baths and Washhouses*.

BATON. In architecture, the term occasionally applied to the torus which rests on the plinth, in the usual base of the Roman Doric order.

In heraldry, the **BATON**, **BASTON**, **BATTOON**, or **BATUNE**, is a diminutive of the bend sinister, of which it is one-fourth the width, and coupé (cut off square) at both extremities, as shown in the accompanying sketch. The



SINISTER BATON, as this is frequently called, is a mark of the illegitimacy of the original bearer; and is under ordinary circumstances borne by his descendants for three generations. When assigned to the illegitimate descendants of royal blood, it may be of a metal; but in all other cases it must be of a colour, whatever tincture it may be placed upon. **DEXTER BATONS** are of very rare occurrence. One, argent, appears in the arms of Louis d'Orleans, Duke of Longueville.

The term is also used for the short staff or truncheon of a military commander; now simply a badge of station belonging exclusively to a field-marshal.* Meyrick is of opinion that it is of Greek origin. He

his example at Rome. Paintings and mosaics adorned them, and bishops in their visitation enjoined their use."—*Sacred Archæology*.

* "In the Meyrick Collection, formerly at Goodrich Court, there was a most interesting specimen of the sixteenth century, supposed by Sir Samuel Meyrick to have belonged to the great Duke of Alva. It was of steel, and hollow, so that it might contain a muster roll or any other important paper, and the exterior was engraved all over with Arabic numerals in gold. with divisions of silver on a russet ground, the results of calculations according to the system of warfare of that period, by which the general ascertained what number of men would occupy

says:—"We must regard the Lacedaemonian *scytale* as its prototype. The scytale was a plain truncheon, and two of the same dimensions being made, one was delivered to the general, the other retained by the Lacedaemonian magistrates. When the former had occasion to send home a despatch, he took a slip of parchment, and twisting it spirally round the staff, wrote across over the edges what he wished to communicate. This, when the parchment was unrolled, became unintelligible, nor could it be comprehended until wrapped round the corresponding baton."

During the middle ages the terms BATON FEREE, BASTON, and BASTOUN, were applied to weapons used in warfare, and in the lists previous to the year 1290, when the tournament statute interdicted their being carried. These weapons apparently were in the form of bludgeons, with or without pick-like steel heads.

BATTLE-AXE. An axe formed of stone, bronze, or steel, attached to a haft of wood or metal, and used by warriors in battle.

This weapon was introduced in the earliest times, as the numerous flint axe-heads, or large celts, as they are commonly called, which have been found fully testify: these heads were fixed to wooden hafts in various ways. The axes of the Gauls were invariably of bronze, and varied little in the shape of their heads, while the modes of hafting them differed. The early bronze axe-heads, somewhat resembling a chisel in shape, are also designated celts. These were usually provided with a socket, into which the haft, with a curved end, was inserted; or with two grooves or half-sockets, into which the haft, split or forked at one end, was laid, and securely bound round with raw hide thongs or bands of bronze. We observe from the drawings in manuscripts that the Saxons used battle axes with both single and double blades, the latter resembling the ancient classic bipennis or Amazonian axe. Axes with single heads, curved on their edges, and mounted on long hafts, are represented in the Bayeux tapestry. The bipennis was a favourite arm among the Phrygian warriors; although, as its name implies, it was usually double-bladed, it sometimes had a cutting edge on one side of the haft and a sharp spike or point on the other. When double-bladed, a spike was carried forward, in continuation of the haft, from between the blades. The short handled axe was almost invariably carried by horsemen; the long handled axe, properly termed the pole-axe, by foot-soldiers. During the middle ages, numerous forms of both classes were introduced. Like all the other descriptions of weapons carried by knights, the axe was frequently elaborately ornamented.* The Oriental specimens usually had their heads richly inlaid

any given space. The modern baton is of wood, with ornamental gilt or gold mountings. The baton carried by the Hereditary Earl Marshal of England was ordered by Richard II. to be of gold, ornamented with black at each end, having the king's arms engraved on the top and his own arms on the bottom of the baton."—J. R. Planché. *Cyclopædia of Costume*.

* "Item, Four battle axes partly gilt, with long small staves of brasell, garnished with velvet, white and green, and silk, in the armory at Westminster."—Brandon MS., 1st of Edward VI., 1546.

with gold and silver, and their blades engraved and pierced. On the introduction of gunpowder, the hafts of horsemen's axes were frequently in the form of fire-arms.

In Christian art, the battle axe is the attribute of St. Alphege, B.M.; St. Thomas of Canterbury, B.M.; and, along with a cross, of St. Olave, K.M.

BATTLEMENT. The term usually employed to designate the parapet of a fortification, or other structure, consisting of a succession of rising portions, called merlons or cops, divided by open spaces, called crenels.* The spaces have, by some writers, been incorrectly termed embrasures and loops: the former, in strict terminology, signifies the recessed portions which widen inwards from the narrow openings or oilets in merlons or walls, and in which the defenders stood while discharging their missiles. The term loop, or loop-hole, is correctly applied to the narrow slit or oilet which is pierced from the embrasure to the exterior, and through which the missiles were discharged. It appears that, originally, the term battlement was confined to the merlon. In licenses granted by the early sovereigns of this country to their subjects for fortifying their dwellings, we find the words "battellare et kinnellare," "kinnellatum et batillatam," and "batillare, krenellare, et turellare." In a license to crenellate, supposed to be granted by Edward IV., 1482, the following words occur:—"those towers and walls to embattle, kernel, and machecollate; and that manner so inclosed, and those walls aforesaid so embattled, kernell'd, and machecollated." From these it is clear that the battlements were what we now designate the merlons, and did not signify the entire parapet, with its merlons and crenels. The merlons, with or without oilets and embrasures, were constructed for the protection of the defenders, who retired behind them when in danger from the missiles of the besiegers, or while drawing their cross-bows or loading their fire-arms, which were afterwards discharged through the crenels.

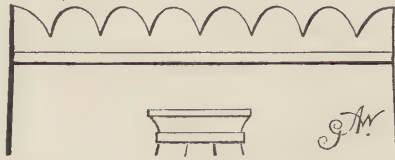
Battlements are found represented in certain Egyptian works. Speaking of ancient Egyptian houses, Wilkinson remarks:—"Other houses had merely a parapet wall, which surrounded the terrace, and was surmounted, in some instances, with a row of battlements; and though a similar style of building belonged more particularly to fortified castles, or to the palaces

* "The slits or spaces between the rising parts of the battlement are termed the *crenels* in the mediæval documents, but were sometimes simply called the *spaces*. The rising parts are the *cops*."

'Item in the hye white tower the *cowpyng* of xlvij *coppys* on the west side; and on the south side, the *spaces* between in length vi fote the left, and some vii fote, and in height vi fote.' Tower Works, 23 H. VIII.

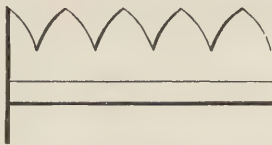
"The phrase to 'cope' a wall, and the 'coping' of a wall, is still in use amongst masons in relation to the upper course or crest, and has the same derivation as the *cop* (from the Anglo-Saxon '*cop*,' the *top*, *cop*, or *head of anything*). But in this example, the expression '*cowpyng* of the *coppys*' distinctly separates the two words."—Willis. *Arch. Nomen. of the Mid. Ages*.

of the king, they adopted it, like many Europeans of the present day, as an ornamental finish to a more peaceful habitation. The Egyptian battlements were an imitation of shields, which, doubtless, suggested the first idea of this mode of protecting the besieged."* Fig. 1 shows the form of these battlements, commonly termed *invected*.



1

In Assyrian sculptures, battlements are found represented of different forms, the most usual being those represented in Figs. 2 and 3; the former are conveniently described by the heraldic term *indented*, and the



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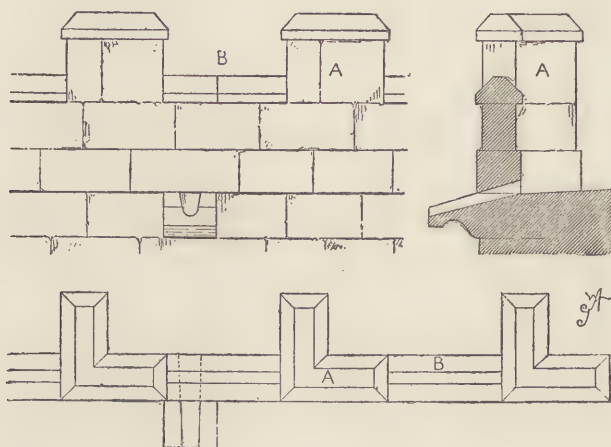
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latter by the term *battled embattled*. Both forms are from sculptures discovered at Koyunjik.

In Greek fortifications, battlements were invariably used; remains have been discovered at Mycenæ, built by the Pelasgi probably ten centuries before Christ. These consisted of bold cops with wide crenels. The Romans, borrowing from the Greeks, also adopted the battlement on their walls and towers. The battlements of Pompeii, of which sufficient remains have been discovered to render their restoration an easy matter, give us a clear idea of the most approved forms of both Greek and Roman treatments. The drawings given in Fig. 4 will thoroughly explain the mode adopted by the Pompeian engineers in constructing their battlements. The merlons, A, were L shaped in plan, one limb being carried inward, at right angles to the wall, so as to form an additional protection to the defenders, who, by such an arrangement, had only to keep a sharp look-out from one crenel, with no fear of exposure from another. The crenels, B, were considerably wider than the merlons. All were covered with massive copings, as shown. The battlements were built in a line with the face of the wall, without anything in the shape of machicolations. Water

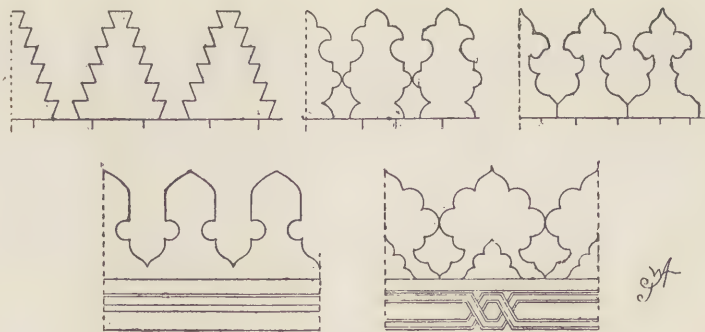
* *Manners and Customs of the Ancient Egyptians.* London: 1878.

spouts projected at intervals to convey the water away from the top of the wall or alure.



4

Before proceeding to speak of the battlement as it is found in its most perfect development, in the buildings of Italy and the West during the middle ages, we may appropriately give a few illustrations of the ornamental battlements met with in Mahommedan architecture; such as may perhaps be more correctly termed *brattishings*, if we accept that term, in

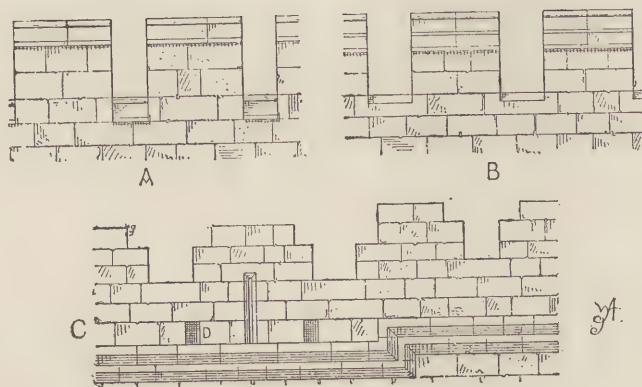


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its most useful sense, to signify a battlement of a purely fanciful and highly decorative character. (See *Brattishing*.) In Fig. 5 are given some of the more characteristic forms found in Eastern architecture, and especially in the Arabian style, of which such fine examples exist at Cairo. The merlons are sometimes elaborately ornamented with surface enrichment, as at the mosque of Sultan Kalaoon, at Cairo.

In the mediæval architecture of the West of Europe we find the battle-

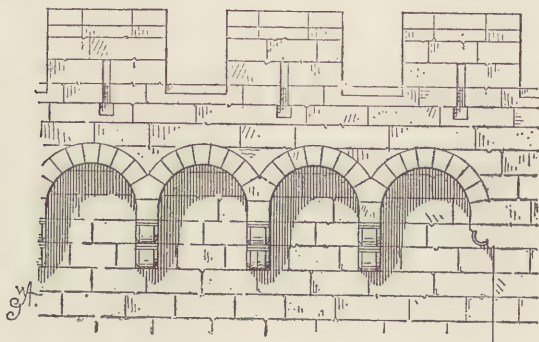
ment in what may be called its perfect development, both as a purely practical and as a simply ornamental feature. In castles and fortified dwellings it assumed, among others, the forms given in Fig. 6. A and B are common forms often met with, although most frequently in our own country, and appear both with and without machicolations. C is a characteristic example, from the chateau of Beaucaire (fourteenth century);



here the merlons are pierced with loops for the discharge of arrows or bolts. During the time of a siege, battlements of this description were usually protected by timber hoards, projecting sufficiently in front to allow soldiers to pass, and either discharge their weapons through loop-holes, or let stones or other materials fall through openings provided in the flooring, on the heads of the attacking party below. Holes were left in the battlements, as shown at D, through which the beams for supporting the hoards were passed. (See *Hoard*.)

Hoards appear to have been commonly used in France about the commencement of the twelfth century, and to have continued in favour until the introduction of artillery materially altered the construction of fortifications. They were very sparingly used in this country, if indeed at all. In a manuscript of Froissart, preserved in the Imperial Library, at Paris, there is a drawing of portion of the fortifications of Newcastle-upon-Tyne, in which hoarding is represented on a curtain between two towers. This, however, proves nothing, for the artist doubtless drew from imagination, or simply copied some work he was familiar with. We do not find any indications of hoardings in any of the battlements of our mediæval castles. When the battlements were advanced from the face of the walls, and supported on massive corbels of stone, placed at regular distances, openings were formed between, through which stones, melted lead, or burning pitch could be thrown down on the assailants. The introduction of machicolation rendered the hoard unnecessary; it appears to have been

introduced into the fortifications in this country at the end of the twelfth century. Fig. 7 is a bold example of the battlement, with loop-holes and machicolation, from the fortified church of Royat (thirteenth century).

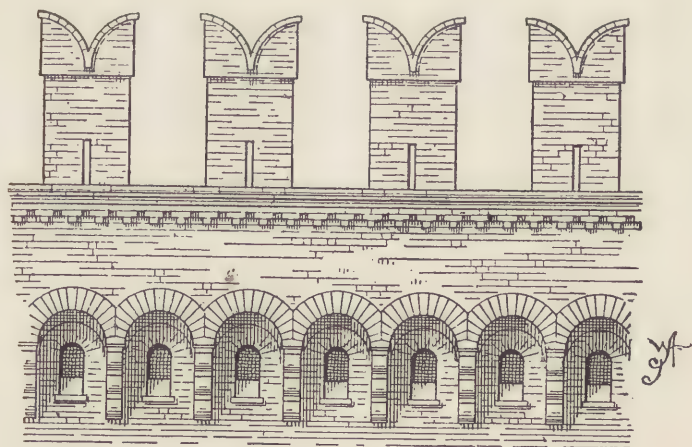


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Fig. 8 is a fine example from the castle of the Visconti, at Pavia (fifteenth century). The latter shows the form of merlon frequently used by the Italian architects.

In English battlements we occasionally find the copings of the merlons to have been decorated with sculpture; for instance, at Chepstow and Alnwick castles they bore figures of armed men; and at Carnarvon, of eagles.

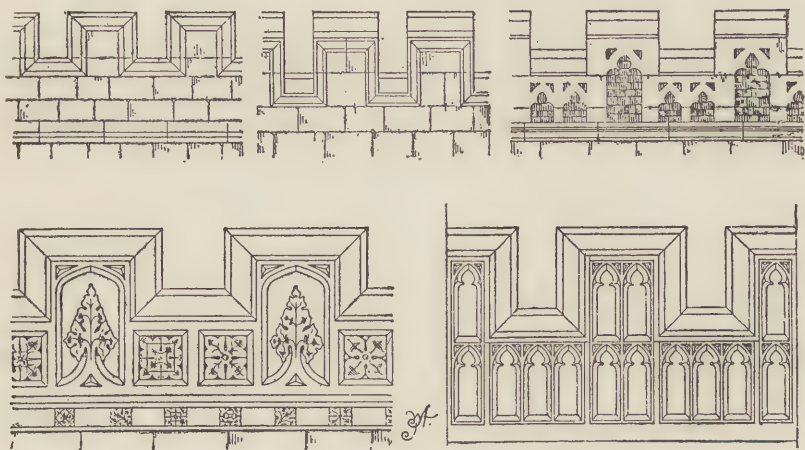
We have now to speak of the battlement as an ornamental detail, and in this capacity it is almost exclusively confined to English Gothic



8

architecture. In the continental styles its occurrence is so extremely rare that it is unnecessary to take any notice of its existence. As an ornament,

the battlement was first introduced in our ecclesiastical buildings at the end of the thirteenth century, and continued in use throughout the Decorated and Perpendicular periods; in the latter it was employed with the greatest profusion, appearing in parapets of walls and towers, on the transoms of windows, along cornices and other horizontal mouldings, and in the timber work of screens and roofs. In Decorated work the battlement usually consists of plain coped merlons, with narrow crenels, the



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sills of which have either similar copings, or plain splays, as shown at A and B, Fig. 6. Two rows of battlements, similar to A, extend along the interior of the choir of Ely cathedral, and produce a rich effect. The merlons have small cruciform oilets. Probably the most elaborate and beautiful example of the Decorated battlement is that of the gateway of St. Augustine's monastery, at Canterbury. Here the whole is richly moulded and traceried; and the coping of the central merlon originally carried a figure of St. Augustine. In Perpendicular buildings several varieties of ornamental treatment are to be met with; the most characteristic of which are given in Fig. 9.

BAUDEKIN OR BALDEKIN. The name given, during the middle ages, to a rich silk stuff, ornamentally interwoven with threads of gold, and frequently further enriched with embroidery. The derivation of the word has been disputed, but it is commonly believed to have been derived from Baldak or Baldech, the name of Bagdad or Babylon, in which city the stuff was originally manufactured.* There was also a silk and gold

* BALDAKINUS, BALDEKINUS, Pannus omnium ditissimus, cujus utpote stamen ex filo auri, subtemen ex serico tegitur, plumario opere intertextus, sic dictus quod *Baldacco*, seu *Babylone* in Perside, in Occidentales provincias deferretur. Vincentius Bellov. lib. 32. cap. 30. *Tertia die fuerunt omnes in blaveis purpuris, & quarta in optimis Baldakinis.* Matth. Westmonas-

material called *babylonicum*, probably identical with *baudekin*. *Baudekin* was evidently the most rare and beautiful woven stuff used during the middle ages, and was probably almost as expensive as cloth of gold. In early times, stuffs of a similar character were known as *ciclatoun*, the original Persian name, introduced with them from the East, signifying a bright and shining appearance. (See *Ciclatoun*.) Dr. Rock correctly remarks:—"Ciclatoun was the usual term during centuries throughout Western Europe, by which those showy golden textiles were called. When, however, Bagdad, or Baldak, standing where once stood the Babylon of old, took and held for no short length of time the lead all over Asia in weaving, every kind of fine silks and in especial golden stuffs shot, as now, in different colours, cloths of gold so tinted became everywhere known, more particularly among us English, as 'baldakin,' 'baudekin,' or 'baudkyn,' or silks from Baldak. At last the earlier term 'ciclatoun' dropped quite out of use."

Baudekin was chiefly employed for the garments of royal and noble persons, for ecclesiastical vestments and coverings for the altar, and for the cloths of estate suspended behind and over the thrones of kings. Of its use in garments we find a record in Matt Paris, where Henry III., at the ceremony of girding William de Valence, a knight, in Westminster abbey (A.D. 1247), is stated to have worn a robe of precious *baudekin*: "*Dominus Rex veste deaurata facta de preciosissimo Baldekino et coronula aurea, quæ vulgariter garlanda dicitur redimitus, sedens gloriose in folio regio, fratrem suum uterinum, baltheo militari gaudenter insignivit.*" With reference to its use for ecclesiastical vestments, we find mention of the master of Sherborn Hospital having, in 1259, bequeathed to that house a cope made of *baudekin*: "*capam de panno ad aurum scilicet Baudekin cum vestimento plenario de panno Yspaniæ ad aurum.*"* *Baudekin* is several times mentioned in the inventory of St. Paul's, London (1295).† With regard to its use for the cloth of estate, in the

ter. an. 1260. *Tumbæ (S. Albani) obtulit optimum Baldekinum.* Necrologium Ecclesiæ Parisiensis 3. Id. Jan. *Insuper dedit nobis quandam bibliothecam bonam & pulcram valentem 30. libr. Paris. & plus : & 2. Baldequinos pulcherrimos & deauratos.* Adde Chronicon Rollandini lib. i. cap. 13. *Vitam Balduini Lutzemb. Archiep. Trevir. lib. 2. cap. 2. 10. & Monasticum Anglic. to. 3. pag. 177. & seqq. 325. & alibi sæpe. Perperam Baldetrinus, pro Baldekinus bis legitur apud Suffridum Petri in Joanne Hornio, Episc. Leod. cap. 45. Male etiam hæc vox scripta reperitur in Charta an. 1197. apud Ughellum to. 7. pag. 1275. 4. Sindones de seta, quarum una est de . . . alia de catablattio, alia de Baldehuno, reliqua vero est rotata.* Legendum enim *Baldekino*. Et apud Franciscum Canonicum Pragensem in Histor. sui temporis: *Ornatus Capellæ regię non nisi de pretiosissimis Belkinis purpura & bysso contextus erat: ubi legendum Baldekinis.* Matthæus Villaneus lib. 3. cap. 63. *La bara, o vero la cassa del corpo era coperta con fini drappi, & Baldacchini di seta.*

"Vocis etymon probant quidem Bollandistæ in Notis ad vitam S. Raynerii to. 3. Junii pag. 481. sed vocem *Baldekinum* posse retineri existimant, quod hæc materiæ qualitatem significare videatur: *Baldekinus* vero formam operis facti. Hinc Borellus: *Baldechinus, Pannus filis aureis & sericis contextus.*"—Ducange, *Glossarium*.

* *Wills, &c., of the Northern Counties of England*, Surtees Society.

† Dugdale's *St. Paul's*, pp. 328, 9.

Privy Purse Expenses of Henry VII., this item occurs: "To Antony Corsse, for a cloth of an estate, conteyning $47\frac{1}{2}$ yerds, £11 the yerd, £522 10s."* Although baudekin is not here mentioned, it is obvious that nothing save the most valuable and beautiful stuff can be alluded to. Plain cloth of gold, however rich, could not possibly have the same decorative effect—an effect aimed at in the cloth of estate—as that presented by such a fabric as baudekin, over which were woven and embroidered patterns in all the brilliant colouring of the eastern artists.

It was unquestionably from these patterned stuffs of Bagdad that the weavers of Italy, Sicily, and Spain derived that inspiration which led to the production of their beautiful figured fabrics during the fourteenth and two following centuries, and of which so many interesting specimens are to be seen in South Kensington Museum. These imitations of the Oriental stuffs were all called baudekins. In the inventory of the wardrobe of Henry VIII. (Harleian MS., 2284) are mentioned "green *baudekins* of Venice gold," and "blue, white, green, and crimson baudekyns with flowers of gold."

BAUDRICK OR BALDRICK. A broad belt, resting over either the right or left shoulder, and passing diagonally across the body to the opposite hip. It appears to have been worn by all classes of society during the middle ages; and it was used for suspending the sword, the basilard or dagger, hunting horns, and other articles. When worn by the nobility it was richly embroidered, and sometimes studded with jewels. Spenser alludes to a baudrick of this description in the following lines:—

"Athwart his breast a baldrick brave he bare,
That shined like twinkling stars with stones most precious rare."

Baudricks were worn during the sixteenth and seventeenth centuries by army surgeons while in the field, to distinguish them from the soldiers, and accordingly protect them from wilful injury. In Ralph Smith's manuscript, written in the reign of Elizabeth, this passage occurs:—"Suche surgeons must wear their *baldricke*, whereby they may be known in the time of slaughter: it is their charter in the field." Baudricks are worn at the present day by the Pope's guards.

BAY. An architectural term, commonly understood to signify any leading division of a building which lays between fixed and salient features. It is, perhaps, correctly used for the quadrangular compartment of a vault which extends between transverse ribs, and also includes the space of the interior directly under it. Thus, the divisions of the nave, choir, or transepts of a Gothic church, which consist each of two arches of the main arcades, directly opposite each other, with the portions of the triforia and clerestory over them, and the corresponding and connecting division

* *Excerpta Historica*, p. 121.

of the vaulting or roof, are called the nave, choir or transept bays, as the case may be. It is accordingly usual, in speaking of length, to describe a nave, &c., of six, eight, or ten bays. According to Dallaway,* "a bay in architectural acceptation is a quadrangular space over which a pair of diagonal ribs extend, which rest upon four angles." The same term is also used for the horizontal space comprised between two principal beams.

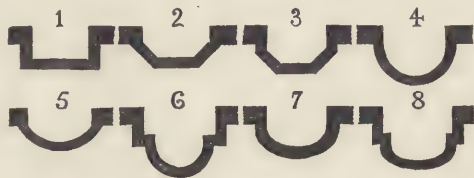
BAY WINDOW. The term, used in a general sense, for a window projected from an apartment, and forming a recess from it. These windows assume various forms, which, for the sake of convenience of description, have been designated by different names.†

Bay windows were almost invariable adjuncts to the halls of the fifteenth century, in this country. Mr. Parker correctly remarks: "The Bay Window is a very important feature in the hall of the fifteenth century. It seems to have been introduced towards the end of the fourteenth, and rapidly increased in size and importance until the time of Henry VIII., when it becomes one of the most conspicuous features of the house, as at Cowdray and Compton Winyate. The usual position for it is at one end of the dais, and there are sometimes two, one at each end. In some instances, as at Fawsley, Northants, it is in the middle of one side of the hall, and has a separate raised platform to itself, but this is an exceptional arrangement. It is sometimes formed in the inside of a sort of turret, and has a small chamber over the vaulted ceiling, as at Great Chalfield, Wilts, and Fawsley.

"Sometimes the groined vault over the bay is at a considerably lower level than the roof of the hall, the space being divided into two stories, and the bay window is thus made to correspond with the porch and the room over it, as at Kingston Seymour, Somerset. In some of the later houses of the time of Henry VIII., where the lofty hall was divided into a dining-room below and a drawing-room above, the grand feature of the bay window could not be dispensed with for external effect, and it was carried up through both stories, as at Thornbury Castle, Gloucestershire.

* *Discourses*. London, 1833

† "Several adjuncts seem to have been introduced in order to classify the varieties of plan which such a window may present: as a SQUARE BAY WINDOW, fig. 1; a CANTED BAY WINDOW,



figs. 2, 3, 4; a COMPASS BAY WINDOW, figs. 5, 6; a SQUARE AND COMPASS BAY WINDOW, fig. 7; a BOW BAY WINDOW, fig. 8; a SQUARE AND BOW BAY WINDOW, fig. 9, sometimes called a CABINET WINDOW."—*Dict. of Arch.* Arch. Pub. Soc. Lond.

The bay window frequently occupies one corner of the inner court, as in the house at Salisbury, now known as the Work-house, and at Compton Winyate, Warwickshire. In the recess formed by the bay window there was also usually a cupboard for the plate and porcelain, fitted with shelves, and so arranged that the contents could be displayed when the doors were thrown open." *

These bay windows, with their many mullions and transoms, filled with armorial bearings and other devices in stained glass, and covered with groined or fan vaults, were in all instances striking and beautiful adjuncts to the hall, especially so as all the other windows were usually placed high in the side walls.

BAZAAR. The name given in Turkey, Egypt, Persia, and India to a public market, either covered or open. In its best type, the Oriental bazaar consists of a series or succession of streets, with small shops on both sides of them. The streets are sometimes vaulted over, or simply protected from the sun by matting hung from transverse beams. Fine examples are to be seen in the two old bazaars of Constantinople, one of which was built about the middle of the fifteenth century and the other about the beginning of the eighteenth. These are streets vaulted over, the vaults being pierced with openings for the admission of light. Bazaars contain shops only, which are locked up and left at night; the entire bazaar is carefully watched, and is sometimes closed by gates.

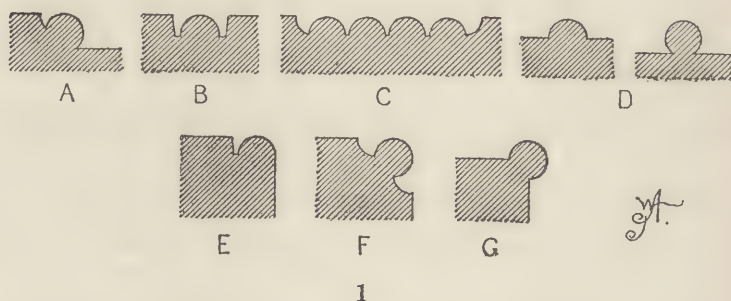
The term has been used in this country and on the continent to designate establishments which more or less resemble the Oriental originals in their arrangements and uses. A building, or range of buildings, in which are numerous small open shops, or stalls, for the sale of all descriptions of fancy articles, may appropriately be called a bazaar, as the term is accepted in the West.

BEAD. In architectural nomenclature, the name given to a small moulding, usually portion of a circle in section, but, correctly, never less than half a circle. It is generally met with in conjunction with other mouldings in architraves, archivolt, and similar features: singly, on the corners or edges of faciae, and, singly or in groups, in various positions in framed and panelled woodwork. The chief treatments of the bead are given in Fig. 1. A is the ordinary *quirked bead*; B is the *flush bead*, so called because it does not project beyond the surface in which it is formed; this bead has two quirks. Several flush beads are frequently introduced in immediate succession, as at C, and produce a very good effect. When beads project from the surface of the work, as at D, they are called *cocked beads*. E is a *single* and F a *double quirked angle bead*; and G is a *cocked angle bead*. (See *Angle Bead*.)

Although usually parts of a circle in their sections, beads are sometimes

* *Domestic Architecture of the Middle Ages*. Part iii., p. 54.

elliptic or slightly flattened, with the view of getting the effect of increased width without additional depth in the quirks. Beads are also fre-



quently enriched, assuming the forms of spiral ribbons, ropes, pearls, and the ornament commonly called the *bead and reel*. (See *Astragalum Lesbium*.)

In costume, the term bead is applied to small globular or other shaped articles, formed of rare stones, amber, coral, glass, pottery, ivory, metal, wood, and other substances, perforated so as to be strung together or sewed upon articles of dress. Beads have been favourite articles of personal adornment from the earliest times. Glass beads have been found in Egyptian tombs, which prove the great skill of the ancient workmen in the imitation of precious stones.* These beads were chiefly used for necklaces, and for the adornment of the wrappers and cartonage of mummies. For the latter purpose they were wrought into an ornamental network of different colours, producing pleasing patterns. A highly vitrified "porcelain," or what has been designated "glass-porcelain," covered with a thick glaze or enamel, commonly of a blue colour, was much used for beads. Speaking of this material, Birch remarks:—"The application of this material to the decorative arts was most extensive; but it was much too fragile for the ordinary wear and tear of life, and must have been principally used for the imitative jewellery of the dead; especially for the beaded network with which the corpse was covered. The most perfect examples of these networks, which are made of bugles and beads, have a scarab with outstretched wings over the region of the heart, and at the sides the four sons of Osiris, the genii of the internal viscera. The beads are of various

* "That the Egyptians, at the early period of the 18th Dynasty, were well acquainted not only with the manufacture of common glass, for beads and bottles of ordinary quality, but with the art of staining it of divers colours, is sufficiently proved by the fragments found in the tombs of Thebes; and so skilful were they in this complicated process, that they imitated the most fanciful devices, and succeeded in counterfeiting the rich hues and brilliancy of precious stones. The green emerald, the purple amethyst, and other expensive gems were successfully imitated; a necklace of false stones could be purchased at a Thebian jeweller's, to please the wearer or deceive a stranger by the appearance of reality . . . Many, in the form of beads, have been met with in different parts of Egypt."—*Man. and Cust. of the Anc. Egypt.*

sizes and dimensions, some being several inches, others scarcely a tenth of an inch long. The larger ones seem to have been stamped out of a metal, stone, or terra-cotta mould, and many of the smaller may have been made by the same process. Among the beads are bugles of blue porcelain, generally about seven-eighths of an inch long, and perforated with a rather large hole; other bugles of a more conical shape; beads, generally made of a glassy paste, slightly rounded at the base; spherical beads sometimes of rather large size; and globular ones of smaller dimensions. There are also annular beads, generally of small size, distinguished by having large orifices and small bands of porcelain; and flat plate beads, like bone buttons, which occasionally are crenated.

"The bugles were strung in nets and formed, with the other small globular beads, the exterior beaded network of mummies. They often had small globular beads placed between them in order to conceal the thread at the angle. The conical beads were apparently strung, but I am not aware that any network of them has been found. The globular beads were also strung on network; but the flat circular beads, like bone buttons, were diapered in fillets, which passed like a ribbon under the chin: at least they are so arranged on the mummy of a priestess in the British Museum. The annular beads are generally of various colours, and are often elaborately worked into patterns representing the winged scarabæus thrusting forward the sun's disc, or into lines of hieroglyphical inscriptions. They are threaded and netted together in compact masses, and form a mosaic of thin cylinders, the respective parts being only in beads coloured blue, red, white, and yellow. These beads are certainly as well executed as they could be at the present day; and some are extremely small, being not more than one-tenth of an inch diameter."* Besides beads of glass and glazed porcelain, the Egyptians formed beads from obsidian, agate, and other natural materials; and also of certain kinds of stone, covered with a thick glaze, vitrified.

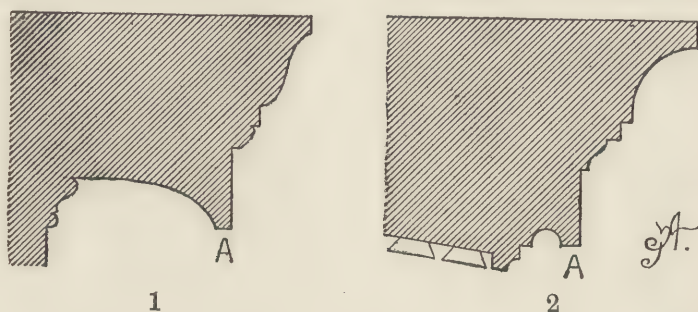
The Greeks appear to have held the Egyptian beads in high favour. In the Egyptian grotto of the Polledrara, at Vulci, were found beads of enamelled ware, which appear to have been of Egyptian origin. Beads formed of odorous pastes were also worn by the Greek ladies. The ancient Romans used beads of glass, rare stones, and the precious metals.

The western nations, in early times, with their common love of personal adornment, wore beads for necklaces and as ornaments for the hair. The Anglo-Saxons formed them of amber, bone, jet and other materials, and sometimes employed large beads as enrichments for their swords. The Anglo-Normans, however, do not appear to have worn bead ornaments; and, indeed, from their time until the beginning of the fifteenth century beads were sparingly used in Europe. It was before this period that the manufacture of coloured and decorated glass beads became a large branch of manufacture in Venice, but they were chiefly exported to the East along

* *History of Ancient Pottery.* London, 1873.

with large quantities of imitation jewels. In 1291 the number of glass works became so numerous in Venice as to endanger the safety of the city, which was incessantly exposed to fires; the government, therefore, issued a decree ordering all the manufactories of glass to be removed from the city. This led to the establishment of the head quarters of the glass trade in the adjoining island of Murano. But on the 11th of August, 1592, a new decree modified the rigour of the previous regulations in favour of the manufacturers of glass beads, false stones, etc., who were then allowed to erect workshops in the interior of Venice, with the sole condition that they should be isolated from all adjoining buildings by at least five paces. From that period until the present day, Venice has taken the lead in the manufacture of beads; and enormous quantities of all kinds are now made there, for export to all parts of the world.

BEAK. In architectural nomenclature, the term used to designate the small pendent fillet on the edge of the corona of a cornice, in the Classic



styles, which serves as a *drap*, preventing the water from flowing inward towards the bed of the cornice, as at A, in the accompanying illustrations. Fig. 1, from the Ionic temple which stood on the Ilissus, at Athens; and Fig. 2, from the theatre of Marcellus, at Rome.

BEAKED. The heraldic term employed when the beak of any bird is of a different tincture to its head (example—*an eagle's head, erased, gules, beaked, or*).

BEAM. In architecture, a piece of stone, wood, metal, or a construction of wood and metal, employed in a horizontal position for supporting a weight, or for counteracting two opposite and equal forces, either pulling or compressing it in the direction of its length. The first office is illustrated by the architrave or lintel, which rests at both ends on solid supports, and carries a wall or other construction placed upon it. The second is illustrated by the tie beam, which is used to counteract a pulling or straining force; while the third may be illustrated by the collar beam, which has to resist compression. Beams have received different names, chiefly to readily

express their forms, materials, and uses, as *box beam*, *trellis beam*, *trussed beam*, *brick beam*, *stone beam* (a term which has been applied to very flat arches, which are, strictly speaking, beams so far as their office is concerned), *tie beam*, *strutting beam*, *straining beam*, &c.

In Christian art, beams, or rays of light or glory, are frequently represented issuing from the beak of the dove, as the symbol of the Holy Spirit; from the hand, as the symbol of God the Father; or from clouds: these usually descend towards some personage or object depicted, and express divine blessing or the direct interposition of heaven.

BEAR. In Christian art, the bear is the attribute of the following saints. Along with a lion, it is the attribute of St. Blandina, V.M.; devouring a man at her feet, of St. Columbina, V.; led by a chain, or fawning upon her, St. Columba, V.M.; licking his feet, St. Cerbonius, B.C.; resting near him, St. Edmund, K.M.; a bear tending sheep, St. Florentius, B.C.; carrying a bundle of wood, St. Gallus, Ab. C.; drawing a plough, St. James, of Tarantaise, B.C.; a bear following him, St. Maximinus, B.C.; attended by a bear, St. Humbert, C.

BEARD. The hair growing on the chin and lower part of the face. In Classic art, the beard is an attribute given to Zeus, Poseidon, Kronus, Hercules (when represented middle-aged), Janus Bifrons, the aged Aesculapius, and some of the minor deities. In a few monuments Dionysus appears bearded, and the Indian Bacchus is invariably so. The latter was distinguished among the Romans by the name "*Bacchus Barbatus*," to separate him from their own youthful and beardless god. The companions of Bacchus, Silenus and the Satyrs or Fauns, are always represented with beards, that of Silenus being thick and curly. Pan is also invested with a goat-like beard. For an interesting article on the beard, as worn by the ancients, see Elmes' *Dictionary of the Fine Arts*.

In mediæval iconography the beard is an attribute of the patriarchs, prophets, kings,* and the generality of the aged personages of the Old Testament which are met with in works of art.

*"Le patriarche Abraham: vieillard, longs cheveux, barbe descendant jusqu'à la ceinture ... Isaac: vieillard, barbe en pointe ... Jacob: vieillard, longs cheveux, grande barbe séparée en deux ... Ruben: barbe en pointe ... Siméon: barbe divisée en deux ... Lévi: barbe arrondie ... Juda: large barbe ... Zabulon: longue barbe ... Issachar: barbe jonciforme ... Gad: barbe et cheveux frisés ... Aser: barbe divisée en cinq ... Nephtali: barbe large et longue ... Joseph: barbe longue ... Benjamin: barbe brun."

"Le prophète Moïse: cheveux gris, peu de barbe ... Aaron: grande barbe ... Hor: barbe partagée en deux ... Josué: barbe arrondie ... Samuel: grande barbe ... Elie: barbe blanche ... Elisée: barbe jonciforme ... Isaïe: grande barbe ... Jérémie: barbe courte et rare ... Baruch: barbe arrondie ... Ezéchiel: barbe en pointe ... Osée: barbe arrondie ... Joël: barbe noire divisée en deux ... Amos: barbe arrondie ... Michée: barbe en pointe ... Naïm: barbe courte ... Sophonias: barbe blanche ... Aggée: barbe arrondie ... Malachias: barbe arrondie ... Gédéon: barbe arrondie ... Zacharias: grande barbe ...

The beard is also an attribute of the Evangelists and Apostles, with the single exception of St. John, who is invariably depicted youthful, and with a smooth face. Nearly all the disciples are bearded.* The Fathers of both the Greek and Latin Churches, the hermits, and all the male saints, which are represented advanced in years, are likewise bearded.

There are three female saints who are depicted with beards, namely, St. Paula Barbata, who obtained a long beard, at her urgent prayer, to enable her to escape from the addresses of an amorous youth; St. Galla, who also obtained one by prayer, with the view of avoiding a marriage; and St. Wilgefortis, who, to protect her chastity, prayed that her face might be disfigured by a beard. A representation of the latter saint exists on the rood-screen of Worstead church, Norfolk.

BEAUTY. To accurately define beauty is a task which has baffled the cleverest writers on art. "For," as Winckelmann justly remarks, "beauty is one of the great mysteries of nature, whose influence we all feel; but a general, distinct idea of its essential must be classed among the truths yet undiscovered." As popularly understood, beauty in art is that quality, or assemblage of qualities, proceeding from pleasing forms, agreeable combinations of colour, and perfect fitness and relation of parts, which create in us feelings of both intellectual and sensuous gratification. Acknowledging some such definition, Winckelmann says:—"Beauty is felt by sense, but is recognised and comprehended by the understanding, which generally renders, and ought to render, sense less susceptible, but more correct. . . Colour assists beauty; generally, it heightens beauty and its forms, but it does not constitute it. Colour, however, should have but little share in our consideration of beauty, because the essence of beauty consists, not in colour, but in shape." Hogarth, in his *Analysis of Beauty*, makes the principles of beauty to be fitness, variety, uniformity, simplicity, intricacy, and quantity.

Elmes supports our own definition; he says that beauty is "a term of most extensive application, which denotes that assemblage of agreeable forms and graces which charms or pleases the senses, particularly the eye and ear; as colour, form, and motion, and their several combinations. Although much has been written on the principles of beautiful forms, yet nothing has been positively decided as to the nature and properties of abstract beauty itself, even if such a quality be acknowledged."

Nathan: barbe arrondie ... Achias: barbe longue et large ... Saméas: barbe arrondie ... Joad: forte barbe ... Ananias: barbe séparée en deux."

"Le prophète-roi David: barbe arrondie ... Le roi Roboam: barbe naissante ... Abias: barbe arrondie ... Asa: barbe en pointe ... Josaphat: barbe arrondie ... Joram: barbe en pointe ... Ozias: barbe arrondie ... Joatham: barbe séparée en deux ... Achaz: large barbe ... Ezéchias: barbe en pointe ... Manassès: barbe large et divisée en deux ... Josias: barbe divisée en cinq. Jéchonias: barbe arrondie."—*Manuel d'Iconographie Chrétienne*.

* Of the sixty-eight enumerated in the *Guide to Painting* (*Manuel d'Iconographie Chrétienne*) only nine are directed to be painted without beards.

Beauty cannot be measured, classified, or otherwise demonstrated by any system of rules. It is not only different in its nature in dissimilar objects, but it is differently estimated by minds of varied constitution, even in relation to the same object. The beauties of architecture, painting, sculpture, music, and poetry are as widely dissimilar as the productions of those arts are in themselves. In proportion as a work of art is material or ideal will its beauty be sensuous or intellectual; in the one case addressing itself directly to the senses, in the other appealing to the higher faculties of the mind alone.

We give a few passages from one of the most valuable critical essays on art published in our time—*The Nature and Function of Art, more especially of Architecture*, by Leopold Eidlitz.*

"All writers upon æsthetics agree that the pleasurable emotion in the subject is the test of its being a work of fine art, and that the quality which in fine art produces pleasurable emotion is its beauty. What constitutes beauty is not established upon any one comprehensive principle; but certain relations of the work deemed beautiful to utility, to morality, to the religious sentiment, and even to the Deity are asserted, doubted, and disputed, and certain properties of works of art, such as unity, harmony, contrast, symmetry, magnitude, association, relation, and proportion, are established, and in turn rejected, as the attributes of beauty.

"The questions raised in philosophical speculations on the theory of art are mainly these: What is the nature of the emotions produced by nature and art? We find here but few attempts to define the qualities required in the person contemplating a work of art. It is assumed, either that the subject is fully prepared to receive impressions, and to be affected by them, or that no preparation is needed for that purpose.

"What is the nature of the beautiful, the quality of every object capable of producing these pleasurable emotions? Is it an essence which pervades all objects, always of the same nature, although various in its phenomenal manifestations? or, may the unity of beauty be questioned, and its presence attributed to a number of properties, which properties have this in common, that they all produce pleasurable emotions?

"A work of art is held to be matter representing an idea; or, as Hegel has it, the interpenetration of matter and thought. The German school of æsthetics does not admit an independent existence of matter, but holds matter to be the negative limiting principle in the action of self-movement of the absolute, and the beautiful a particular manifestation of supreme thought, in contradistinction to the true and the good, which are equally manifestations of supreme thought.

"Socrates held, on the other hand, that the beautiful is coincident with the good, and adds another quality, viz.: That the beautiful serves a purpose for the need of man.

"Plato describes beauty as the soul's intuition of the self-beautiful, a reminiscence of prenatal existence, undefiled by union with the body. When applied to beautiful objects, he renders their qualities as those of proportion, unity of parts; and then again as force, velocity or smoothness.

"Aristotle ignores absolute beauty; he also places the beautiful above that which is useful or necessary. In this we see the beginning of a later school, which has many adherents at the present day, who designate the beautiful as a quality which renders the object possessing it unnecessary—a suicidal philosophy which, if true,

* Sampson Low, Marston, Searle, and Rivington. London, 1881.

must close the argument for ever, and make all further reflection on the subject useless. Aristotle also indicates the absence of lust in the pleasurable emotion resulting from the contemplation of art work as a leading characteristic.

"Baumgarten describes the beautiful as the perfection of sensuous knowledge, and the ugly as that which struggles against that perfection.

"Hegel defines *beauty absolute* as the shining of the idea through the sensuous medium. His classification of art is especially interesting, inasmuch as it defines the position of architecture in relation to the sister arts—as follows: 1st. Architecture, symbolic, sensuous, material in excess. 2nd. Sculpture, less subject to matter, higher ideality. 3rd. Painting, the romantic art expresses the full ideality of the soul. 4th. Music, all elements of space suppressed, all inner emotional nature (*Gemüth*). 5th. Poetry, universal expression; this tends to the idea that matter is unworthy, and its presence in art measurably objectionable. . . .

"If we pursue the definition of a work of fine art, viz.: that it is an idea expressed in matter, we shall have no difficulty in understanding clearly the exact nature of beauty. Fine art is a species of human short-hand by which the hypothesis, the argument, and the conclusion pertaining to an idea (which is a relation of organized matter), are at once presented to us; and, whether we thoroughly understand it or not, our senses convey to us a more or less perfect picture, capable of producing an impression, proportionate to our understanding, indeed, but within that limit perfectly complete.

"A logical demonstration of the same idea in words, in definition, explanation, argument and conclusion, contemplates a certain amount of intellectual preparation proceeding through a variable length of time. During this time we are called upon to entertain thoughts, relations, principles in which we have no perceptible interest, until their relation to the final conclusion is reached; and then only if we have followed the argument throughout, and have fully succeeded in mastering it. This process is tiresome to the mind, and but rarely successful. But in art work, or in a work of nature (which is an idea presented in matter), we can, at a glance, take in the whole scope of this idea; not, indeed, to the extent of its full import, but to such an extent as we are prepared intellectually to realize. The very first result of such a sensuous perception is an idea brought to our mind, as it were, by simply looking at it, or by listening to it, and before we have fully realized the scope and import of it, we are impressed by the magnitude of the mental effort capable of creating such a work of nature, or of art. The dumb thing speaks to us, and we are delighted to find that it can be made to speak; and we say that it is beautiful. Now, it does not matter whether it speaks to us in the soothing tones of love from the laughing eyes of a Cupid, or in the thunder notes of a cataract, a volcano, or a storm. This knowledge that it is matter which is addressing us, prompts us to admire the mind, the force, the dexterity which can make matter speak to us; and when we say it is beautiful, we mean by it that the successful effort to express an idea in matter is beautiful. . . .

"Nor do we reflect especially upon the idea communicated when we pay this tribute to the creative force. It is indifferent to us whether the idea be one to excite pleasure or pain, whether it present to us a picture of virtue or vice, whether it treat of the heroism or the follies or foibles of humanity: in every one of these cases our tribute to the creative force is one of pleasurable excitement. Now the work of the creative force, as seen in nature or art, is the beauty we talk about. The success in making matter speak, or sing, or dance, so that it conveys an idea by its expression, constitutes beauty; and the degree of expression, considering the environment of the idea expressed, and the nature of the matter in which it is expressed, constitutes the degree of its beauty."

We need not apologise either to the author or to our readers for the above lengthy quotation; it is its own best apology. Those to whom the work is still unknown cannot imagine the difficulty we experienced in staying our

hand where we have done; and, for an elaborate and learned dissertation on the present subject, we have great pleasure in directing the student's attention to its fascinating pages.

BEAVER. (Fr. *Bavière*.) The lower portion of the face-guard of a helmet, against which the visor closed. Sometimes, however, no visor was used, in which case the beaver was high, reaching upwards nearly to the nose. The beaver was introduced about the middle of the fourteenth century. The term has been applied to the visor by some writers; for instance, Shakespeare makes Hamlet say:—"He wore his beaver *up*," and, again, in Henry IV., he writes:—"Their beavers *down*, their eyes sparkling through sights of steel." In these passages the ordinary visor is evidently signified, for it alone could be lowered.

BED. The piece of furniture, formed of wood or metal, and supplied with mattress and coverings, upon which one sleeps.

The bed was in all probability the earliest article of domestic furniture constructed by the hand of man; its earliest form being interwoven branches of trees, or masses of dried leaves, covered with skins of sheep or animals killed in the chase. Of Egyptian beds we know little or nothing. Porphyry certainly mentions those used by priests as being made of a kind of wickerwork of palm branches; and it is likely that the same beds were used by the lower or middle classes. There can be little doubt that the wealthy Egyptians had beds of more valuable materials, richly decorated after the fashion of the other articles of furniture they used. The Greek beds appear to have been oblong in shape, supported on four legs, and generally formed with a slightly raised portion at one end, where the head of the sleeper rested. The materials commonly used for the bedstead (*κλίνη*) were the ordinary woods of the country, but box and maple, solid or veneered, were employed in better class work. In addition to turning and carving, the exposed portions of the bedstead were frequently inlaid with the precious metals, ivory, etc. The bedding consisted of woollen blankets and linen sheets, either spread on soft skins, or, as in more luxurious times, on mattresses of linen or woollen material, stuffed with wool or feathers. To these, pillows of a similar description were added to complete the comfort of the sleeper. The beds of the Romans (*lecti cubiculares*) did not materially differ in form from those of the Greeks, but metal and expensive materials were much more largely used in their construction. Speaking of them, Guhl and Koner remark:—"The body of the bed, made either of wood inlaid with ivory and tortoiseshell, or of valuable metal (*lecti eborati, testudinei, inargentati, inaurati*), rested on gracefully formed legs. Sometimes the whole bed-frame was made of bronze, and in a few cases (*e.g.*, the bed of Elagabalus) of solid silver. A bronze bed-frame somewhat resembling our iron truckle-beds may be seen on an Etruscan tomb (see *Museum Gregorianum*, vol. i., Tav. 16). A bronze trellis-work here carries the mattress, instead of the more usual

webbing (*fasciae, institae, tenta cubilia*). The mattress (*torus*), originally filled with straw, was afterwards stuffed with sheep's wool (*tomentum*) or the down of (particularly German) geese and swans; Elagabalus chose the soft plumage under the wings of the partridge for his mattresses. Bolsters and cushions (*culcita*) were stuffed with the same material. Blankets and sheets (*vestes stragulae*), according to the owner's wealth, made either of simple material or dyed and adorned with embroidered or woven patterns and borders, were spread over the cushions and bolsters. One or several pillows (*pulvinus*) served to prop the head (whence their name *cervicalia*) or the left elbow of the sleeping or reclining persons."* We find no mention made by any ancient author of bed curtains or hangings, but it is highly probable the wealthy Romans used them during the colder months of the year.



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Of the forms and ornamentation of beds, in Western Europe during the middle ages, we learn much from the examination of the miniatures of illuminated manuscripts. Indeed, if it were not for these trustworthy

* *The Life of the Greeks and Romans*. Lond., 1877.

records, we should know little if anything about them prior to the fifteenth century. Probably one of the earliest representations is that which appears in the miniature of the birth of Abel, in *Cædmon*,¹ an Anglo-Saxon manuscript of about the end of the tenth century. The drawing is rude and out of perspective, yet the form of the bed, which is doubtless that commonly used by the Saxons in this country, may be made out to be that of a shallow box with raised ends. In an arch, at the head of the bed, a curtain is suspended, which appears to indicate that the Saxons employed hangings to protect themselves from draughts of air which must have been common enough in houses where glass windows were almost unknown. The curious student will find a copy of this miniature in the twenty-fourth volume of the *Archæologia*.

Another and more interesting example, of about the same date, is to be found in the miniature of the Nativity, in the *Benedictional of St. Æthelwold*.² A reduced drawing of the bed is given in Fig. 1. It is simply formed of four boards, connected together by angle posts, much in the same manner as the modern French bed. The mattress was probably supported by cross bars of wood, a frame filled with wicker-work, or a netting of cords. No hangings or ornamental bed-clothes are represented, but the form of a richly-embroidered pillow is shown under the Virgin's head. The numerous lines on the side and end of the bedstead probably indicate mouldings or bands of colour; and the treatment of the spreading bases of the angle posts proves that, even in the tenth century, such articles of household furniture as beds were richly decorated.

During the Norman period furniture became still more ornamental, and we find by the miniatures in the manuscripts of the twelfth, thirteenth, and fourteenth centuries that the beds of the nobles and wealthy classes of those times were of elaborate workmanship, and covered with rich stuffs, embroidered with coloured silks and gold. The accompanying illustration, Fig. 2, from the twelfth century manuscript of Herrade de Landsberg, preserved in the library of Strasbourg, gives one a good idea of the more costly beds of the period.³ The miniature represents Solomon sleeping in a magnificent bed, watched by his guard. In the thirteenth and fourteenth centuries, the bedsteads, like all other pieces of furniture, partook of the style of architectural ornament and decoration in vogue at the period of their construction. They were commonly surmounted by canopies, from

¹ *Metrical Paraphrase of Scripture History*, preserved in the Bodleian Library, Oxford.

² MS. preserved in the library of his Grace the Duke of Devonshire.

³ Describing this miniature, Viollet-le-Duc remarks:—" Dans la vignette reproduite fig. 2, on voit indiquées les cordes ou tringles de fer qui sont attachées aux deux montants du chevet et maintiennent le matelas très-incliné du côté de la tête; un tapis couvert d'ornements est placé sous le matelas, qui lui-même est couvert d'une étoffe très-riche; sous la tête de Salomon est placé un petit oreiller, et le roi est enveloppé dans une couverture doublée de fourrure (vair). Des courtines sont suspendues au-dessus du lit ainsi qu'une petite lampe. L'usage des veilleuses suspendues au-dessus des lits paraît avoir été habituel pendant les *xiii^e*, *xiiii^e* et *xv^e* siècles."

which fell curtains of some rich material ; of course we are speaking only of the beds of the wealthy classes. The canopies were covered with cloth, and hung round with a narrow fringed piece of stuff similar to that used for the curtains. There are abundant materials in old documents from



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which one can form a correct idea regarding the care and money expended upon beds and their hangings. For instance, in a writ of 1 Henry VI. * (1423), to the keeper of the royal wardrobe, for the delivery of a complete "bed of hawking" to the duke of Exeter. A schedule gives a description of the various pieces of the bed, which comprised a selour, a testor, a counterpoint, six tapits of arras, with figures of hunting and hawking worked in gold, two curtains, and one traverse of tartaryn. The whole was estimated at 139*l.* 11*s.* 8*d.*, equal to about 2,800*l.* of our money. When the ambassador of Charles of Burgundy was received by Edward

* MS. Additional, No. 4, 603, fo. 337.

IV., there were prepared for his accommodation—"iij. chambres of pleasaunce, all hanged with whyte silke and lynnene clothe, and all the floures covered with the carpettes. There was ordeined a bedde for hym selue of as good doune as coulde be gotton, the shetes of Raynys, also fyne fustyns, the counterpoynte clothe of golde furred wth armyn, the tester and the celer also shynynge clothe of golde, the curteyns of whyte Sarcenette, as for his hede sute and pillowes were of the Quenes owne ordonnance."* These particulars are sufficient to assure us that during the fifteenth century the greatest attention was paid to the appointments of the bed chamber, amongst which, of course, the bed held the most prominent position.

It is unnecessary to follow this subject further; the beds of the sixteenth and following centuries do not call for special comment; they gradually left the costly types of the previous periods, and approached the more commonplace and comfortable styles of to-day.

In Christian art, a bed is the attribute of St. Faith, V.M., who is commonly represented bearing a small one of iron in her hand. St. Germanus of Paris, B.C., is depicted lying in one.

In architectural nomenclature the term bed is used to designate the lower and upper horizontal surfaces of a stone, brick, or other building material; the former is called the *under bed*, and the latter, the *upper bed*.

BED CHAMBER OR BED ROOM. An apartment appropriated and appointed for the reception of a bed, and chiefly used for the purpose of sleep and repose.

The bed chambers of the ancient Egyptians and Assyrians were probably small apartments, for they were only slept in during the colder months of the year, when large and airy rooms would have proved difficult to warm. In summer they slept on the platforms or flat tops of their houses; these platforms were covered with roofs supported by columns, so that the air had free access on all sides. We know very little about the houses of the ancient Greeks, but from what has been learnt we gather that their bed chambers were usually small apartments, similar in all essentials to those found in the dwellings at Pompeii. (See *Antithalamus*.) The sleeping apartments in the houses of Pompeii, which have been excavated, are generally of very small dimensions, being in some cases not more than eight feet in length: they are usually lighted by an opening left in the wall above the door. These bed chambers (*cubicula nocturna* or *dormitoria*) were often richly decorated, and sometimes painted with erotic compositions. In apartments of such small size there were probably no articles of furniture beyond a bed and lamp; the latter either suspended by chains, or supported on a stand, as represented in Pompeian paintings. During the middle ages, in Europe, the decorations and furniture of the bed chamber held pace with the taste for luxury in dress and other

* MS. Additional, No. 6, 113, fo. 106.

matters ; and probably reached their culmination in the fifteenth century. One illustration, a passage from the *Paston Letters*, will here be sufficient to show to what extent the embellishments of such apartments were carried. The occasion was the entertainment of Philip of Castile by Henry VII., at Windsor. The passage alluded to runs thus :—" They were the rychestly hanged that ewer I sawe, vii. chambers togeder hangyd withe clothe of Arras wroght with gold as thyk as cowl be, and as for iij. beddes of astate, no kyng crystyned can shewe sych iij."

In the construction and appointment of modern bedrooms the following conditions should be observed. 1. The room should be as large and lofty as possible, so that it may contain a plentiful supply of air for the sleeper's use ; and provision should be made for the continual, but imperceptible, renewal of this air. 2. Large windows should be constructed, so that the apartment may be rendered healthy by the abundant supply of sunlight. 3. The walls and ceiling should be of quiet and moderately deep tones of colour, so that there may be little reflected light or glare in the room in the morning hours while the sun strikes directly in, and the occupant is still asleep. 4. Double blinds, of differently coloured materials (white and dark green are usually the best), should be provided for the windows, so as to temper the light admitted after sunrise to suit the comfort of the sleeper. 5. The bed should be so placed that no direct rays from the windows can fall on the sleeper's eyes ; and no curtains should be hung round the bed to impede the free circulation of air near the head of the occupant.

BED MOULDINGS. The term commonly employed to designate those mouldings of an entablature which are situated between the under-side or soffit of the corona of the cornice and the upper edge of the frieze. The bed mouldings belong to the cornice.

BEE. In Christian art, bees and a beehive are the attributes of St. Ambrose, B.C.D. ; for their origin, see article *Ambrose, St.* A beehive appears also as an attribute of St. Bernard, Ab.D., in the picture in the Dresden Gallery, probably in allusion to the sweetness of his teaching. In the *Ikonographie der Heiligen*,* St. John Chrysostom, B.C.D., is depicted with the beehive, no doubt expressive of his great eloquence.

BELFRY. This term is commonly used in two senses ; one, to denote a tower constructed for the proper reception and elevation of one or more bells ; and the other, to denote a chamber in, or that portion only of, a tower or other structure in which the bells are hung. The origin of the word has been the subject of some dispute ; it is probable, however, that our English word is derived from the old French, and has no immediate

* By J. v. Radowitz. Berlin, 1834.

relation to our word *bell*, notwithstanding that Ducange derives it from the Saxon and German *bell* and *freid*, peace.*

The earliest existing examples of belfries or bell-towers connected with ecclesiastical buildings are those which belong to the following churches of Ravenna:—St. Francesco, erected, according to Hübsch, in A.D. 470; St. Apollinare in Classe, constructed about the middle of the sixth century; and the original cathedral, or basilica Ursiana. The campanile of the latter is all that remains of the ancient structure; it is probably earlier than that of St. Apollinare, which it resembles in its circular form. The tower of St. Francesco is square in plan. (See *Campanile*.) The earliest record of a bell-tower is that in certain editions of the *Lib. Pontif.*, which informs us that Pope Stephen III. (753–757) built one at St. Peter's, containing three bells, used "to summon the clergy and faithful to the service of God." From this time the erection of belfries became more and more common, until no church was considered complete without one.

BELFRY TURRET. The term very commonly used to designate the attached turret of a tower, which contains the stairs to the belfry or the ringing chamber. It is generally constructed, externally, upon a polygonal plan; but both square and round turrets are to be met with. In Norman buildings, square turrets were generally introduced; and sometimes they were square in the lower part, changing to a polygonal or circular form in their upper stages. The turret is invariably circular internally

* "BELFRY. The origin of this word shows the fact that, instead of containing the English term 'BELL,' as at first sight would seem probable, the term is only a variation of the old French word *belfroit*, meaning a bell as well as a tower. The term *belfroi* is used in France as belfry is in England, for the frame of timber carrying the bell, and for the tower or steeple erected to contain it."—*Dict. of Arch.*, Arch. Pub. Soc., Lond.

In Carpentier's *Glossarium Novum, Supplementum* (*Glossaire François*), *belfroit*, *belfroy*, or *belfroi* is described as "tour de bois propre pour l'attaque & la défense." We find in the *Glossarium*, of Ducange, the following:—"BELFREDI nomen à similitudine ejusmodi machinæ bellicæ, postea inditum altioribus turribus, quæ in urbibus aut castris eriguntur, in quarum fastigio excubant vigiles, qui eminus adventantes hostes pulsata, quæ in eum finem appensa est, campana cives admonent, quo sint ad arma parati. Nec in eum tantum finem statutæ in berfredis campanæ, ut adventantes nuncient hostes, sed etiam ad convocandos cives, & ad alios usus, prout rei politicæ curatoribus visum fuerit. Unde *Campana bannalis* dicitur Hocsemio, quod cum pulsatur, quicumque intra *bannum* seu districtum urbis commorantur, ad conventus publicos ire teneantur. [In quibusdam Consuetud. municipalibus, *la Bann-cloque*, quod ad *bannum* convocandum pulsetur.] Statuta Gildæ Scotticæ cap. 28. *Nullus regratarius emat pisces, fœnum, avenas. . . ante pulsationem campanæ in Berefrido, &c.* Atque inde *Berfredus* inter privilegia *Communiæ* vulgo accensetur: idque colligitur ex Aresto, seu Statuto Caroli Pulcri dato Paris. an. 1322. quo cives Laudunenses, propter nescio quod commissum in Laudunensem Ecclesiam sacrilegium, jure *Communiæ* privantur, nempe jure *Scabinatus*, *Collegii*, *Majoratus*, *Sigilli*, *Campanæ*, *Berfredi*, & *Jurisdictionis*. *Berfredi Brugensis* meminit Chronicon Flandr. cap. 61. 63. quod *Beaufroy* & *Bellefroy* vocat. [Idem probat Charta Johannis Comitis Atrebat. an. 1376. pro libertate & immunitate S. Vallarici: *Item nous avons donné & accordé échevinage, Ban-cloque grande & petite.*] Sed & *Berfredi* vox, à Saxon. & German. *bell*, campana, & *freid*, pax, videtur deducta, quod in hisce turribus appenderetur ad convocandos homines in tumultibus bellicis, vel aliis occasionibus, maxime in urbibus, quarum *Communiæ Pacis* nomine non semel donatæ leguntur."

to receive the newel stair ; and its entrance is commonly in the inside of the tower, but external doors exist in some examples. The turret rarely projects above half its diameter from the external faces of the tower. It is carried to different heights, from a little above one stage of the tower, or just sufficient to give access to the ringing chamber or bell-ringers' room, to above the entire height of the tower, where it terminates in a small spire, or a pierced or battlemented parapet. When terminated at any point below the cornice of the tower it is usually covered with a bold sloping roof of stone. There appears to have been no rule followed at any period for the position of the turret ; it commonly occupied one or other of the angles of the tower, and an examination of numerous buildings incline us to believe that the south-west angle was the favourite one, especially when the turret was to be made an important architectural feature. The middle-age builders, however, considered convenience in this as in almost everything else they did.

There can be no doubt that a boldly designed belfry turret, carried above the battlement or parapet of a tower, and artistically terminated, adds much both to the beauty and picturesqueness of the composition ; and even when only marked from the other angle turrets or pinnacles by increased dimensions it breaks the monotony of the design and satisfies the artistic sense.

The French architects have carried the development of the belfry turret, as an important architectural feature, far beyond anything ventured in this country. For proof of this we have only to direct attention to that of the tower of Saint-Romain, Rouen cathedral. This turret is square in plan, projects from one side of the tower, is carried upwards through four of its stages, and is terminated in a lofty octagonal spire, about 48 feet high, and small square angle ones. (See *Tower*.) M. Viollet-le-Duc correctly designates this turret a *chef-d'œuvre* of architecture. The French architects appear to have preferred placing their belfry turrets against the faces instead of directly on the angles of their towers, as in the example just mentioned, and in the towers of the abbey church at Vendome (Loir-et-Cher), the church of Langeais (Indre-et-Loir), the church of Tracy-le-Val (Oise), Chartres cathedral, Coutances cathedral, and Noyon cathedral. Several of these buildings have the turret close to an angle of their towers, but not occupying an angular position strictly speaking. Examples of angle belfry turrets are presented by the church of Senlis (Oise), the abbey church of Saint-Leu d'Esserent (Oise), and the church of Saint-Menoux (Allier). All these are fine and well-designed examples, and boldly accentuated.

BELL. A musical instrument of percussion, consisting of a hollow metallic vessel, within which is suspended the object by which the necessary blow is given, designated the clapper. The latter, however, is not necessarily a part of the bell, for under certain conditions, such as in carillon ringing, the bells are struck by hammers adjusted outside them.

The word bell appears to have been derived from the Latin *pelvis*, a bowl.*

The bell, as simply a sounding hollow vessel of metal, is unquestionably of great antiquity, and was probably first introduced in the religious ceremonies of the eastern nations; which of the nations, however, had the priority will never be known. The earliest recorded use of bells is to be found in the Old Testament, where the dress of the Jewish High Priest is described as being hung with them.† Ancient writers, such as Martial, Pliny, Porphyry, and Lucian, mention them, chiefly with relation to the public baths. In the time of Constantine bells were used to summon the faithful to the service of the Church, but of what form or materials they were are not known. In the year 640, Pope Sabianus ordered the hours to be sounded on the bells. Bede, in the beginning of the eighth century, speaks of the bell for prayers. In 865, Patriciacus Ursus, doge of Venice, presented a peal of bells to the emperor Michael at Constantinople; and in Venice, in the year 874, a bell was cast for the emperor Basil. Turketul, abbot of Croyland, who died about the year 870, had a large bell cast for his abbey; and abbot Egelric, his successor, added a peal of six others. It is therefore quite obvious that by the end of the ninth century important bells were common throughout Christendom. Our own records tend to prove that bells were both common and of

* With reference to the other names of bells given during the middle ages, and their probable derivations, we cannot do better than give the following remarks, by the Rev. Samuel Cheetam, M.A., and Alexander Nesbitt, F.S.A.—“*Names of Bells*.—The name *campanum* or *campana* is commonly said to have been given to bells, because they were invented by Paullinus of Nola in Campania.” [Durandus, bishop of Mende, writing in the end of the thirteenth century, says:—“Bells are brazen vessels, and were first invented in Nola, a city of Campania; wherefore the larger bells are called *Campanae*, from Campania the district, and the smaller *Nolae*, from Nola the town.”] “Paullinus, however, who more than once describes churches, never mentions bells, and the more probable supposition is, that bells in early times were cast from Campanian brass, which Pliny (*Nat. Hist.* xxxiv. 8) describes as the best for such a purpose, and so received the name of *campana* or *campanum*. The word *nola* can scarcely be derived from the city Nola, and is perhaps imitative of the sound, like the English ‘knoll.’

“The word which we have in the form *clock* (compare Irish *clog*, French *cloche*, German *glocke*) was adopted in later Latin, both in the neuter form *cloccum* (*Vita S. Bonifacii*, in *Act. Sanct.*, June, tom. i. p. 472), and the feminine *clocca* (*Bonifacii Epistt.* 9 et 75); the latter is the usual form. The ‘Anonymus Thuanus,’ quoted by Binterim (*Denkwürd.* iv. 1. 290) gives the form *cloqua* for a turret-bell (*cloquam turris*).

“*Signum* (Ital. *segno*, old French *seint*, whence *toecin*) is the most usual word for a church-bell from the 6th century. In some cases it appears to designate not a bell, but some other kind of *semantron* (Ducange’s *Glossary*, s. v.; Rosweyd, *Vitae Patrum*, *Onomast.* s. v. p. 1056).

“Small bells, such as were rung by hand in the refectories of monasteries, were called *tintinnabula*; and the still smaller bells which were sometimes appended to priestly vestments, were designated *tinniola*, from the tinkling sound. (Ducange, s. v.) *Tintinnum* seems to have been sometimes used for a larger bell.

“The word *skella*, *skilla*, *scilla*, *squilla*, or *esquilla* (Ital. *squilla*, Germ. *schelle*) is also used for a small bell. In the *Tabularium* of St. Remi (quoted by Ducange) a ‘*schilla de metallo*’ is mentioned as well as ‘*signum ferreum*.’ Other designations occasionally found are *aes*, *aeramentum*, *lebes*, *muta*, *κόδων*.”

Exodus xxviii. 33-35.

considerable size in this country (usually attached to monastic establishments) as early as the sixth century. In France the art of bell-founding progressed rapidly from about the same epoch; and in the eighth century certain churches had important peals, which were rung at stated hours. Charlemagne was a great patron of the art, and entertained bell-founders at his court; amongst these was Tanco, the monk of St. Gall, who cast a fine bell for the church built by the emperor, at Aix-la-Chapelle. This monk asked 100 pounds of silver to use in the preparation of the bell metal; and from this we may reasonably suppose that the bell did not weigh less than a quarter of a ton. Bells were made or used in Ireland prior to their introduction in this country; this is easily accounted for by the fact that Ireland was advanced in Christian art before any important progress was made in England. On this branch of our subject, the authors we have previously quoted remark: — “Bells appear to have been held in especial regard by the Irish ecclesiastics of the fifth and succeeding centuries. Their bells seem to have been chiefly hand-bells; but Dr. Petrie (*Round Towers of Ireland*, p. 383) says that ‘it is perfectly certain that bells of a size much too large for altar-bells were abundantly distributed by St. Patrick in Ireland, as appears from his oldest lives.’ Sinall, of Cill Airis, in the tripartite life of St. Patrick, supposed to have been originally written in the 6th century, is called *campanarius*. Hand-bells are preserved, which are attributed to Irish saints or ecclesiastics



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from the 5th century downwards. They seem to have been reckoned among the most necessary insignia of a bishop: thus in the annotations of Tirechan, in the Book of Armagh, we are told that Patrick conferred on Fiach the degree of a bishop, and gave him a box or satchel containing a bell, a ‘monster’ (*i.e.* reliquary), a crosier, and a ‘polaire’ or ornamental case for a book (Petrie, p. 338). The earliest of these bells, and the most highly venerated, is that known as the ‘Clog-an-eadhachta Phatraic,’—the bell of the will of Patrick,—given to the church of Armagh by St. Columba; this is of quadrangular form, of thick sheet iron, six inches high, five inches by four at the mouth and diminishing upwards, with a loop at the top for the hand” (Fig. 1). “It is kept

in a splendidly ornamented case, made for it between A.D. 1091 and 1105."

Dr. Petrie, in his valuable work—*Round Towers of Ireland*—informs us that previously to the ninth century the Irish bells were mostly of quadrangular form; but at that period they were made circular and of bronze.

The art of bell-founding proceeded steadily to improve from the time of Charlemagne. During the twelfth and thirteenth centuries it appears to have chiefly flourished in the monastic establishments, those great nurseries of all the peaceful arts during the middle ages. The casting of important bells was probably superintended by travelling bell-founders, who went from monastery to monastery as they were required. Speaking of this practice, Sir Edmund Becket remarks:—"I suspect this practice went on very much later; for it is impossible to believe that there were regular bell foundries in anything like the number of places from which the 'legends' on still existing bells testify that they have come. The great clock-bell on the south-west tower at Canterbury was recast in the cathedral yard as lately as 1762. Indeed the carrying of very large bells along the roads of old times would have been a more serious affair than casting them." Bell-founding was practically the last of the mediæval arts to decay; and it has somewhat revived in our day.

The largest bell ever cast is that of Moscow; it is still in existence, but useless through being broken. Russia is the most celebrated nation in the world for large bells. China has numerous important bells, but as their shapes and tones are very bad, it is unnecessary to speak of them here. The following list of the principal large bells in the world is slightly abridged from that given by Sir Edmund Beckett in his valuable *Treatise on Clocks, Watches, and Bells*.

GREAT BELL OF	DATE.	DIAMETER.		WEIGHT.	NOTE.
		Ft.	Ins.	Tons. Cwt.	
MOSCOW (piece broken out)	1734	22	8	220 0	..
ANOTHER	1817	18	0	110 0	..
NOVOGOROD ... ..	..	..	..	31 0	..
OLMUTZ... ..	..	..	..	17 18	..
VIENNA	1711	9	10	17 14	..
WESTMINSTER	1857	9	0	13 11	E
SENS ... ..	..	8	7 ?	15 0	..
ERFURT... ..	1497	8	7½	13 15	..
PARIS, NOTRE-DAME	1680	8	7	12 16	..
MONTREAL	1847	8	7	12 15	F
MAGDEBURG	1702	7	10 ?	13 0	..
COLOGNE	1448	7	11	11 3	G
BRESLAU	1507	..	..	11 0	..
AMIENS... ..	1748	..	..	11 0	..

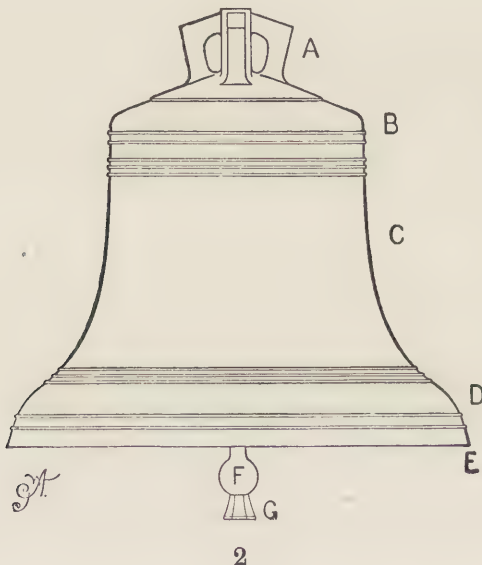
GREAT BELL OF					DATE.	DIAMETER.	WEIGHT.	NOTE.
						Ft. Ins.	Tons. Cwt.	
YORK ...	...	...	...	...	1845	8 4	10 15	F sharp.
REIMS ...	...	...	...	...	1570	..	10 9	..
BRUGES ...	...	...	...	...	1680	..	10 5	G
LYONS ...	...	...	...	...	..	..	10 0	..
MARSEILLES ...	...	...	...	...	..	..	8 19	..
GORLITZ ...	...	...	...	...	1516	..	8 5	..
ROME, ST. PETER'S ...	...	...	...	...	1786	7 4	8 0	..
NUREMBERG ...	...	...	...	...	1392	..	7 16	..
OXFORD ...	...	...	...	...	1680	7 0	7 12	5 notes.
LUCERNE ...	...	...	...	...	1636	..	7 12	..
HALBERSTADT ...	...	...	...	..	1457	..	7 10	..
ANTWERP ...	...	...	...	...	..	..	7 3	..
BRUSSELS ...	...	...	...	...	..	..	7 1	..
HALLE ...	...	...	...	...	1480	..	6 10	..
MUNICH ...	...	...	...	...	1493	7 3	6 5	..
DANTZIC ...	...	...	...	...	1453	..	6 1	..
RATISBON ...	...	...	...	...	1325	..	5 16	..
LEIPSI... ..	...	...	...	...	1634	..	5 14	..
GHENT ...	...	...	...	...	..	..	5 10	..
RODIZ ...	...	...	...	...	1841	..	5 10	..
LINCOLN ...	...	...	...	...	1835	6 10½	5 8	A
LONDON, St. PAUL'S ...	...	...	...	...	1716	6 9	5 4	A & C sharp.
BRADFORD ...	...	...	...	...	1873	6 5¼	4 7	A
WORCESTER ...	...	...	...	...	1868	6 4½	4 10	B flat.
EXETER (PETER) ...	...	...	...	...	1675	6 4	5 0?	A
PRESTON ...	...	...	...	...	1868	6 3	4 16	B flat.
BOLTON ...	...	...	...	...	1872	6 2	4 2	B
LEEDS ...	...	...	...	...	1859	6 2	4 1	B
EXETER, Tenor ...	...	...	...	...	1676	5 11½	3 7	B flat.
CANTERBURY ...	...	...	...	...	1762	5 9	3 10	C
GLOUCESTER ...	...	...	...	...	14—	5 8½	3 5	C
WESTMINSTER, Fourth	...	...	...	...	1857	6 0	3 18	B
„ Third	...	...	...	...	1858	4 6	1 13½	E
„ Second	...	...	...	...	1857	4 0	1 6	F sharp.
„ First	...	...	...	...	1857	3 9	1 1	G sharp.

The continental bells in the above list are stationary bells, used for clocks to strike upon, or at most are only occasionally swung about frame-

high, or sufficient to cause the clappers to strike them with a pretty sharp stroke. The continental nations never ring their bells in peals as we do. Our ringers completely *raise* and *set* the bells with the mouths upwards while they stop between their peals. Some continental bells are certainly *raised*, but by the clumsy expedient of placing a counterpoise on the top of the stock; but this method altogether fails to secure the proper swing, and accordingly to produce the full sound of the bell.

And now we may speak more directly of the bell itself, briefly describing its parts and their proportions, the composition of the "metal" employed, and the best mode of hanging bells or attaching them to the stock.

The form and most approved proportions of a bell are shown in Fig. 2. The names given to its several horizontal divisions are as follows:—A, the *canons*, by which the bell is bolted to the stock; B, the *shoulder*; C, the



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waist; D, the *sound bow*; E, the *lip* or *rim*; F, the *clapper*; and G, the *flight*. The proportions of bells vary considerably in different countries and in the works of different foundries. The following conclusions arrived at by Sir Edmund Beckett on the subject are worthy of attention. He says, from a lengthened experience in bell-ringing, "that long-waisted bells, of rather a flower-pot form, are inferior to those whose internal height is not more than three quarters of their diameter, and more contracted in the *waist* (or middle) than is the fashion with the French bells." The thickness of a bell at the sound bow (the thickest part) should be one-thirteenth of its diameter. At the waist the thickness should be a thirty-ninth of its diameter. Those who desire to go more minutely into this subject should consult Sir Edmund Beckett's valuable work, above named.

Bell-metal is properly composed of pure copper and tin, occasionally

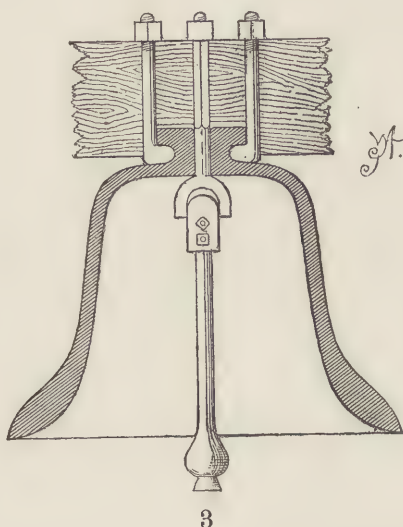
with a small proportion of antimony. The best proportions of the copper and tin (if antimony be present it belongs to the latter) appear to range between 3 parts (by weight) of copper to 1 of tin, and 13 parts of copper to 4 of tin. The latter is the proportion recommended by Sir Edmund Beckett, who says:—"I have come to the conclusion, for chemical reasons, that the proper composition for bells is 13 of copper to 4 of tin, though it is not mentioned in any book, nor came out exactly on the analysis of any old bell-metal. But in old times the doctrine of 'chemical equivalents' or atomic weights was unknown; and the reason why 13 to 4 is the proper proportion is, that it is the only one near 3 to 1 which is in atomic proportions. For the 'atomic weight' of copper is 32, and of tin 59, and $\frac{13}{4} \times 59 = 6 \times 32$; or the mixture of 13 to 4 by weight is a true chemical combination of 6 atoms of copper to 1 of tin, and is written in chemical language $\text{Cu}_6 \text{Sn}$ (Sn being short for stannum, tin)."

"The only other atomic combination within the range of bell-metal is $\text{Cu}_7 \text{Sn}$, or 19 copper to 5 tin by weight; but that is too soft, except for small house bells, which are thinner and have clappers much larger in proportion than church bells. Old Tom of Lincoln and the old York Minster bells of 1765, and probably the Bow bells, of nearly the same date and made from the same patterns, contained '03 of antimony, which has a hardening effect like tin. That is much too large a quantity to have got in by accident; but there was certainly no improvement in the sound from introducing about '03 of antimony into a small bell. The antimony diminishes the specific gravity of the alloy, which tin does not, though so much lighter than copper by itself. So far as I have an opinion on the point, it is at present against the antimony, and the bell-founders have the same opinion. Very small quantities of iron, lead, zinc, arsenic, and sulphur sometimes appear in the analysis of bells; but they are mere impurities. I have indeed seen lead and zinc in considerable quantities innocently put down in books as ingredients of bell-metal; but they are mere adulterations; for both those metals are injurious and have no business there at all, especially the lead."

We feel that we best do our duty to our readers in a Work like the present, by quoting thus largely from the writings of Sir Edmund Beckett, the greatest modern authority on bells and clocks. His statements and opinions may be freely accepted, having been based on much study and practical experience. We have now the pleasure of concluding this article with a description of his valuable and ingenious methods of attaching bells to their stocks. The illustration, Fig. 3, is copied from that given in his interesting *Lectures on Church Building*.* He remarks:—"This section of the bell and stock will explain it at once. The bell is cast with a thick neck having a flanch round the top and a round hole through the middle, instead of canons. It is attached to the

* By Edmund Beckett Denison. Second edition, Bell and Daldy. London, 1856.

stock by four or six bolts with bent ends taking hold of the flanch, and for large swinging bells the bolts would have a ring round them all to make them more secure against bending. The clapper bolt has nothing to do with



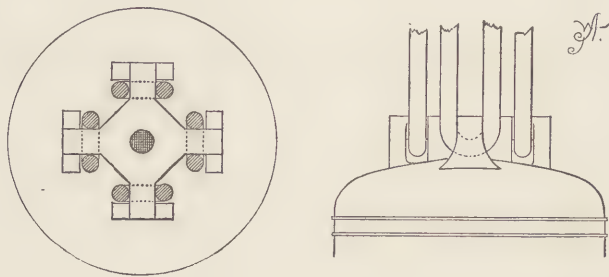
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carrying the weight of the bell, and goes square through the stock but round through the bell, so that it always keeps its position though the bell may be turned. When the bell is worn in one place so much as to want turning, you have only to loosen the six bolts a little, and then a few of the ringers standing round the bell can easily turn it round a little, and the bolts will be set up again: and in this way a bell may easily last 1,000 years as 100 without any risk of cracking. Bells which are only struck by clock hammers do not get sensibly worn in 100 years, from the greater flatness of the blow. But as the constant striking in one place must have some tendency to weaken the bell, those of the Westminster clock* will be hung in this way. The great bell would probably not be recast, taking into account the bell-founders' risk in such an undertaking, and the incidental expenses, for much less than £1,000."

In his subsequent work, *Clocks, Watches, and Bells*, he describes other crowns introduced by him in the following words:—"Church bells used always to be hung by six long ears, called 'canons'" (see Fig. 2), "which cut a large piece out of the stock, and weakened it very much. They were not set radially, and the iron bolt which carries the clapper was cast into the bell. Consequently when a bell got worn in one place it could not be turned without a new stock and a great deal of trouble. Several plans to cure this had been proposed, but none of them were satisfactory; and I had the Westminster bells and some others made with a top like a mushroom or button" (see Fig. 3), "embraced by a collar in two pieces or

* Constructed from his designs and under his direct supervision.

by bolts with heads of proper shape surrounded by a ring, which may advantageously be connected with the gudgeons or pivots. But the founders complained (unduly, I think) of this ironwork being expensive, and so I invented another crown, with four short and thick canons, which will be understood from Fig. 4. It has been generally adopted by Messrs. Warner. Mr. Taylor uses six very short canons, and in many cases, with my approval, none at all, but only a thick crown with six bolt-holes



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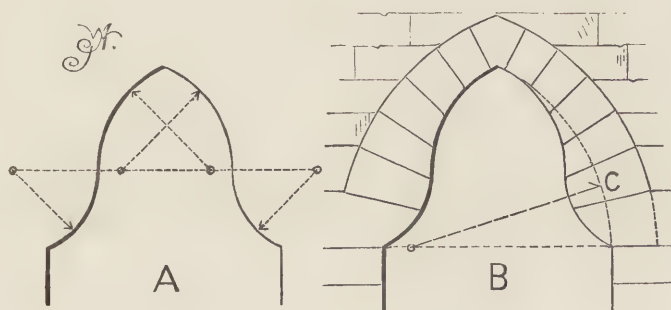
through it. I believe canons are of no use. In all these plans the clapper bolt goes through a round hole in the bell, but a square or octagonal hole in the stock. By placing the bolts (of my plan) each with one leg in the stock, or two of them inside and the other two outside of the stock, you may get four different pairs of places for the clapper to strike, with the same stock and without any cutting of it, and the stock itself is far less cut into and weakened than by the usual canons, which are necessarily taller. The Doncaster bells were the first peal made in this way." The head is accordingly now commonly known as the "Doncaster head" or "crown."

Such a purely mechanical and practical matter as bell-founding hardly comes within the scope of this Dictionary; but in case any of our readers should desire to know something about it we may refer them to short descriptions in *Music and Morals*, by the Rev. H. R. Haweis, M.A.; and *A Dictionary of Musical Terms*, by Stainer and Barrett.

BELL ARCH. The term used by English architects for an arch, the intrados of which assumes somewhat the form of a bell, as in Fig. 1. It is struck from four centres, as at A, the two lower of which are situated outside and the two upper within the arch, or in directly contrary positions to those employed in striking the more commonly used ogee arch. We are not aware of a single old example of the bell arch in this country; but it appears, though very rarely, in French architecture of the fifteenth century. The French architects call it the *ARC EN DOUCINE*.*

* "La partie inférieure de cet arc est convexe et sa partie supérieure est concave; c'est à cause de sa forme qu'on l'a nommé *en doucine*. L'arc en doucine est donc le contraire de

It is quite obvious, from the form of the arch, that it could not be constructed of any great dimensions without a considerable waste of material; for the whole of the contrasted curves should be within the



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intrados of a pointed arch as indicated at B. The pointed arch is marked at C. The joints of the voussoirs should radiate from the centres of the pointed arch. The bell arch is, accordingly, in its nature a purely ornamental feature, and of very limited application.

BELL CANOPY. A construction of stone or wood in the form of a canopy, within or under which a bell is hung. Several examples of stone bell canopies exist in this country, as at Godshill, Isle of Wight, and Welborne, Norfolk; but perhaps one of the most beautiful examples is that of Cleeve abbey, Somersetshire, a sketch of which is given in the *Glossary of Architecture*, Plate 34. Bell canopies, when constructed of timber, are not projected from walls, as are the examples above alluded to, but supported on standards which elevate the bell to the required height. The canopy is in all cases constructed so as to protect the bell and its harness from the rain.

BELL CHAMBER. The room or portion of a tower in which bells are hung in their carriage or frame. The bell chamber is usually situated as high as possible in the tower, so that the sound may pass without break over the adjoining roofs. It has large open windows on all sides for the free egress of the sound; these are commonly supplied with louvres to protect the bell-frame, &c., from the rain and snow as much as possible; but in some cases the windows are left perfectly free, the louvre-boards being attached to the interior timber construction in which the bells are hung, as at the cathedral of Notre-Dame, at Paris, and numerous other French churches. The latter treatment is obviously the best; and does

l'arc en accolade. Le sommet de cet arc peut être aigu ou arrondi; comme l'arc en accolade, il a été employé au xv^e siècle, mais plus rarement que lui."—E. Bosc., *Dict. Rais. d'Arch.*

not interfere with the dignity of the long windows. An example of how such lights are rendered unsightly, through being cut by large louvres, exists at the cathedral of Noyon.

BELL COT. A construction, usually of an ornamental character, terminating in a small spire, built upon a wall and on brackets or corbels projected from its sides. With such a method of construction the bell cot may assume any form without affecting the lower portion of the supporting wall. Within the cot one or two bells are usually hung.

Probably the simplest type of bell cot is that of Harescome church, Gloucestershire. It is placed over the chancel arch, and rises from the wall in a solid manner, an octagonal spire being supported on the side piers and on a cross slab of stone, set on edge, and shaped at each end to the form of a bracket. Two spaces are left for the bells, which are hung underneath the spire. More elaborate examples exist at Acton Turvill church, and Shipton Olliffe, Gloucestershire, and at Leigh Delamere, about eight miles from Chippenham; these are all of Early English character. A fine Perpendicular example is to be seen at Corston church, near Malmsbury. Drawings of these bell cots are given in the *Archaeological Journal*, vol. i., pp. 36-38; and in the *Glossary*, Plates 33, 34. The term *bell turret* is frequently applied to such features as are above alluded to, but it is obviously incorrect. A bell turret is, strictly speaking, a tall and slender tower-like structure, usually circular or octagonal on plan, and terminating in a small spire or battlemented cornice. It commonly contains one bell, hung in its higher portion. (See *Bell Turret*.)

BELLED. The heraldic term used when a hawk or falcon is drawn with bells affixed to his legs.

BELL GABLE. A construction of stone, terminating in a small gable, and pierced with one or more arched openings for the reception of bells. The term may also appropriately be employed to designate the gables of churches when they are pierced with openings for bells. Probably the earliest example of a gable so pierced is that in the supposed Saxon church of Corhampton. A writer (I.H.P.) in the *Archaeological Journal*,* speaking of this and other examples, says:—"The earliest instance of the hanging of bells without a tower, which has been observed in England, occurs in the supposed Saxon church of Corhampton, in Hampshire. Here there are two bells, and they are hung in oblong square-headed openings left in the wall of the gable, in the part corresponding to the tympanum of a pediment in classical architecture; these openings have 'long and short work' in the jambs, and have every appearance of being contemporary with the building.

"The next example that we have observed in point of date is in the

* Vol. iii., p. 206.

early Norman church of Littleton, in Hampshire. These are in nearly the same situation as at Corhampton, but more in the upper part of the gable, and the openings are round-headed ; they are now plastered up, and a wooden bell-cot erected on the gable.

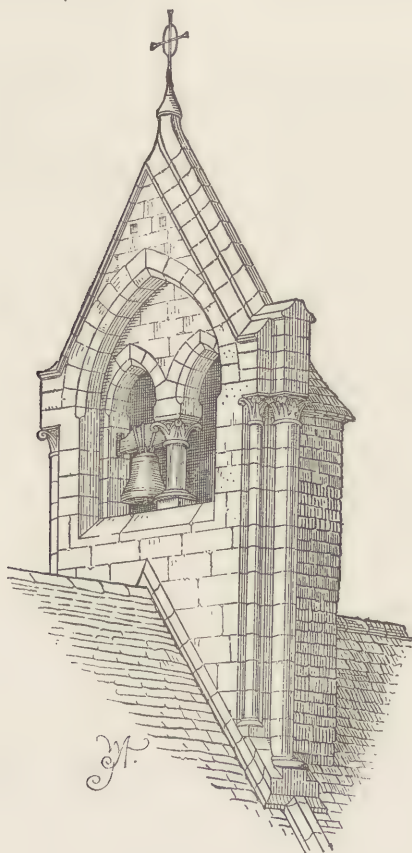
“The next in order of this class is Ashley, also in Hampshire, which is of transition Norman character. Here the bells are still hanging (1846) in the openings, and seem to be as old as the building. The plain Norman imposts to the arches leave no doubts of their age, and the peculiar form of the bells, having no rims turned outwards, but a thick plain edge, seems to indicate an equally great antiquity.”

We may now return to the consideration of the more usual forms of bell gables. They vary but slightly in their general principles of construction ; and they almost invariably either surmount the western or the chancel arch gables of the churches in which they appear. Good examples of bell gables over chancel arches occur at Little Coxwell church and at Binsey church, near Oxford. When a bell gable, with an opening for one small bell, is met with, placed over a chancel arch, it may safely be accepted as having been constructed for the Sanctus bell. Good examples of bell gables, pierced for two bells, and occupying the western position, occur at Northborough church, Northamptonshire (Norman), and Manton church, Rutland (Early English). Examples of double bell gables, that is with two arched openings surmounted by two gables, are sometimes met with, as at Little Casterton church, Rutland. Speaking of the western bell gables, the writer (I.H.P.) in the *Archaeological Journal* remarks :—These “usually rise above the roof, the west wall being carried up with openings to receive the larger bells : sometimes a single bell only, more often two, and occasionally three, but this is rare. The double bell-gable, as it is frequently called,* is found abundantly in the Early English style in most parts of the country, though more abundant in some counties than in others, especially in Rutlandshire ; some of these are finished by a single small gable over the two openings, as at Manton, and this is the most common plan. In other instances there are two small gables, one over each opening, as at Little Casterton, Rutland, and Penton Mewsey, Hants. The bells are usually hung in these openings, simply on a pivot, to swing backwards and forwards, but sometimes there is a wheel attached, as at Manton. In general the ropes are brought down through the roof, and the bells rung from within the church ; but in some cases the ropes are brought down on the exterior of the wall, and the ringers stand on the ground outside the Church,” as at Little Casterton. Drawings of the examples above alluded to are given in the *Glossary of Architecture*, Plates 32, 33, and in the *Archaeological Journal*, vol. iii., pp. 207-210.

Bell gables are also found in Continental architecture, as at the church

* This writer uses the term “double bell-gable” for a gable of any form having *two bells* ; but it is best to confine the term to the constructions which have *double* or *twin gables*, and without special reference to the number of bells hung in them.—W. & G. A.

of Mittois, near Caen, and at the so-called Templar's chapel, at Laon. The former is severe and very perfect in design, as may be seen by the sketch given in Fig. 1 ; the latter is of the greatest simplicity, consisting



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of two pointed openings pierced in a wall of uniform thickness, and surmounted by a perfectly plain gable. The openings have no mouldings or enrichment of any kind.

BELLOWS. In Christian art, a bellows held by a devil is the attribute of St. Genevieve V. It is supposed to typify the power of sin in extinguishing the light of purity and faith, figured by a burning lamp or taper. A bellows in the hands of a demon may always be accepted as signifying the insidious arts of the Evil One by which the flickering flame of Faith is blown out in the soul.

BELL ROOF. The term commonly used to designate a roof the shape of which presents, more or less, the likeness to the exterior of a bell. It

is formed, like the bell arch, by curves of contrary flexure, being convex towards the top and concave in its lower part.

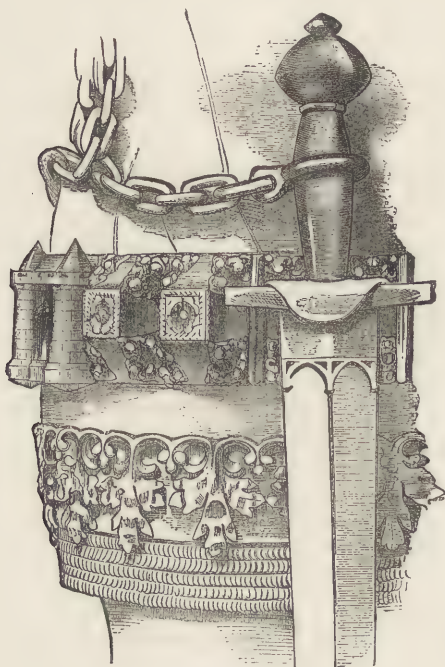
BELL TOWER. A lofty tower, of any form in plan, erected for the reception of one or many bells, with their frames and ringing apparatus. (See *Campanile* and *Tower*.)

BELL TURRET. A tower-like structure, of small dimensions in plan, carried up a considerable height, and furnished in its upper portion with a chamber for the proper reception of a bell. Such turrets are commonly octagonal, but both circular and square ones have also been built. They usually terminate above the bell chamber in a small spire, a cornice surmounted with a battlement or pierced parapet, or other ornamental feature. In mediæval buildings the lower portions of bell turrets were frequently used as staircases. In many cases it is difficult to decide which of the terms, bell turret or bell tower, is the more appropriate; the dimensions of the plan and the general treatment in elevation are the best guides in deciding the proper term to use. The octagonal structure surmounting the "Tom gate" of Christ Church college, Oxford, has been pronounced one of the finest examples of the old bell turrets in this country; but this is one of the instances in which it is difficult to say whether the word tower or turret should be used in correctly describing it.

BELT. In architectural nomenclature, the term which has occasionally been used for what is now almost invariably called a band or a string-course. The employment of the term would correctly imply that the member entirely girt the structure on which it appears. A band of slight projection from a wall, and extending round a tower, turret, or any circular or polygonal building might be appropriately termed a belt.

In military costume, the belt was, during the fourteenth and fifteenth centuries, a richly ornamented cincture worn round the hips as one of the marks of knighthood. This belt sometimes carried the sword and dagger; but was frequently worn in civil costume, as a mark of knighthood, without any weapons attached. In the effigy of Sir Roger de Bois (1311), in Ingham church, Norfolk, the belt is represented without the sword or dagger, notwithstanding that the knight is in full armour. A very beautiful example of a richly barred belt carrying sword and dagger is to be found on the effigy of Sir Roger de Kerdeston (1337), in Reepham church, Norfolk. An instance of the belt worn in civil costume without weapons is supplied by the effigy of William of Hatfield, second son of Edward III., in York cathedral. Elaborately decorated examples are to be found in monumental brasses of the fourteenth and fifteenth centuries, as in those of Sir John de St. Quentin, Brandsburton church, Yorkshire, and of a knight in Laughton church, Lincolnshire (see Fig. 1, in article *Basinet* or *Bascinet*). Probably one of the finest representations of the belt of knighthood in existence is to be seen on a statue (1373) in the passage

leading from the church of St. Antonio, Padua, to the cloisters. It shows the method of wearing the belt, and the elaborate ornamentation with which it was frequently covered. A sketch of this belt is given in Fig. 1.

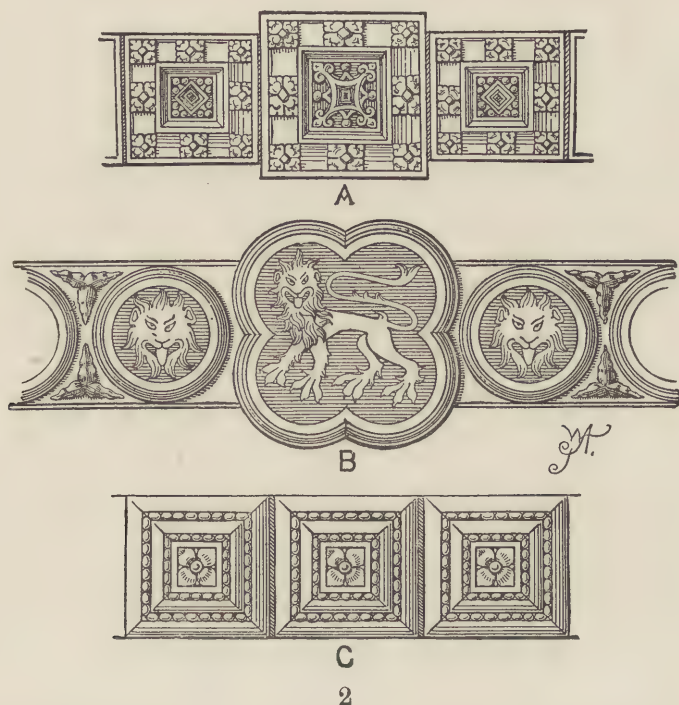


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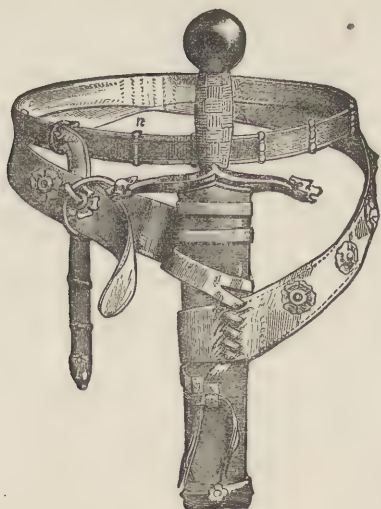
In Fig. 2 are given three representative examples of the ornamental devices found on the belts of monumental effigies in this country. A is from the effigy of Sir Thomas Cawne, in Ightham church, Kent, of the time of Edward III. B is from the celebrated effigy of Edward the Black Prince, in the chapel of the Holy Trinity, Canterbury cathedral. This belt, like the entire figure, is of copper, gilt; the lion and the lion's heads being surrounded by a ground of blue enamel. C is from the effigy of John Lord Montacute, in Salisbury cathedral. This belt was painted to represent gold, the metal generally used in forming the bars and other mountings of such belts.

It only remains for us to allude to what is correctly called the sword belt, as distinct from the cincture of knighthood. The ordinary type of this belt, as worn during the middle ages, is represented in Fig. 3, from a sketch by M. Viollet-le-Duc. It consists of two parts, one a narrow cincture buckled round the waist, and the other a broad ornamented strap, attached to the waist belt at one part, and so adjusted to the sheath of the sword and buckled as to suspend the weapon in an easy fashion against the left hip of the wearer. Good examples of this form of belt may be

seen on a monumental effigy under an arch in the wall of the north aisle of



Tewkesbury abbey; on the effigy of Sir John Laverick, in Ash church,



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Kent; and on that of John of Eltham, second son of Edward II., in the

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chapel of St. Edmund, Westminster abbey. Single belts, sometimes passing through a staple or hook on the armour near the waist, on the right side, were very commonly used for suspending the sword; both effigies and brasses supply many illustrations of this form.

BELVEDERE. The term derived from the Italian adjective *bello*, beautiful, and the verb *vedere*, to see, and usually applied to an architectural construction on the upper part of a building, or in any elevated position, from which a beautiful view may conveniently be seen and enjoyed. The most celebrated building in the world known by this term is the belvedere of the Vatican, from which the famed statue, "Apollo Belvedere," derives its name. In Italian buildings the belvedere assumes several forms, namely, that of a turret, lantern, cupola, and open gallery or loggia.

BEMA. (*Gr.* βῆμα.) The term in architectural nomenclature commonly and correctly understood to signify that eastern portion of an early church which was raised above the level of the floor of the nave, enclosed, and reserved for the higher clergy. The term is seldom used at the present time, save when speaking of early basilicæ or of Greek churches.

Speaking of this term, Bingham remarks:—"The third and innermost part of the ancient churches was that which we now call the chancel, but originally it was known by many other names. One of the most common names was that of βῆμα, or *tribunal*, which, as I have noted before, is a word of various signification, denoting sometimes the *ambo* or *reading-desk*, and sometimes the altar; and sometimes the seats or thrones of the bishop and presbyters; and sometimes the whole space where these thrones and the altar stood: in which sense I understand that canon of the Council of Laodicea which forbids presbyters to go into the *bema* and sit there before the bishop comes. Suicerus has observed it frequently to be thus used in the Liturgies of St. Chrysostom, and St. Basil. And Chrysostom, in one of his Homilies, more particularly describes it to be the place whither the bishop 'went by an ascent into it, to preach, to pray, to stand by the holy temple, and offer the tremendous sacrifice for the people.' By which it is easy to understand, that he takes it not barely for the altar alone, or the bishop's throne, but for the whole place where they stood, and where these several offices were performed. And the reason of the name *bema* was what Chrysostom also intimates when he says, 'they went up by an ascent into it.' For *bema* and *ambo* have both the same original, from ἀναβαίνειν, because they were places *exalted* above the rest, and, like the tribunals of judges, had *an ascent by steps* into them. Now the *bema* was more peculiarly allotted to the clergy, and, upon that account, the clergy were sometimes styled οἱ τοῦ βήματος, and τάξις τοῦ βήματος, *the order of the bema*, or *the sanctuary*."

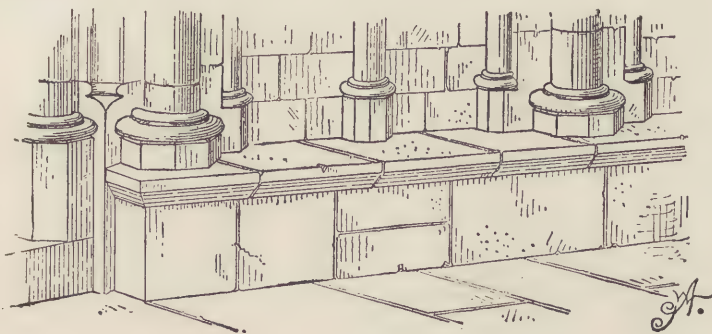
In the early churches or basilicæ, the *bema*, or *sacrarium* as it is now more frequently termed, varied in its dimensions and locality. Where large apses existed, it was sometimes confined to them, or only extended a

short distance in front of them. An arrangement of this kind is indicated on the plan preserved of the basilica of St. Peter, at Rome, built by Constantine about the year A.D. 330. (See at F, on plan, Fig. 10, in article *Basilica*.) But we are of opinion that the bema of this basilica commenced at the arch of triumph, as it certainly did in the basilica of St. Paolo fuori le Mura. (See plan, Fig. 13, article *Basilica*.) In both these buildings the floors of their transeptal divisions appear to have originally been level with those of their naves; this is conjectured from the fact that the bases of the columns of their arches of triumph were not elevated. The mode in which the floor of the transept of St. Paolo was raised, without interfering with the bases of the great columns, is indicated on the plan above alluded to. In some cases the bema extended from the neighbourhood of the arch of triumph, but did not include the lateral arms of the transeptal division, as in St. Maria Maggiore. (See plan, Fig. 12, article *Basilica*.) In an eastern church, the bema is the most sacred portion, comprising the principal apse and the space between it and the iconostasis. The altar occupies a central position on its floor.

BENCH TABLE. The term used to designate the projecting table or course of stone, on the interior of the side walls of mediæval buildings, forming a seat or bench against the walls. The term is met with in a contract preserved to us by Dugdale, and thus given by Willis, in the *Architectural Nomenclature of the Middle Ages*:—

“The ground of the same body and isles to be maad within the erthe under the ground-table-stones with rough stone; and fro the ground-table stone (to the lege-) ments, and alle the remanent of the said body and isles unto the full hight of the said Quire, with clene hewen Asshler altogedir in the outer side unto the full hight of the said Quire; and all the inner side of rough stone except the *bench-table-stones*.”

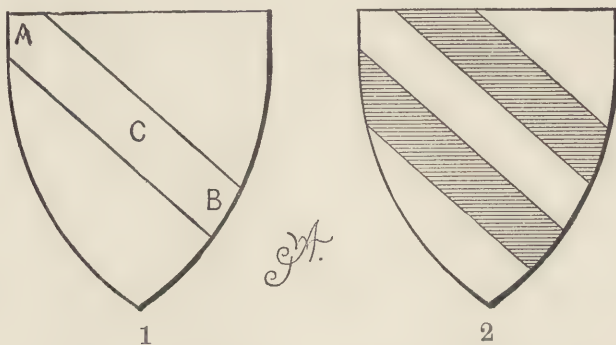
The bench table stone which forms the seat is usually simply chamfered



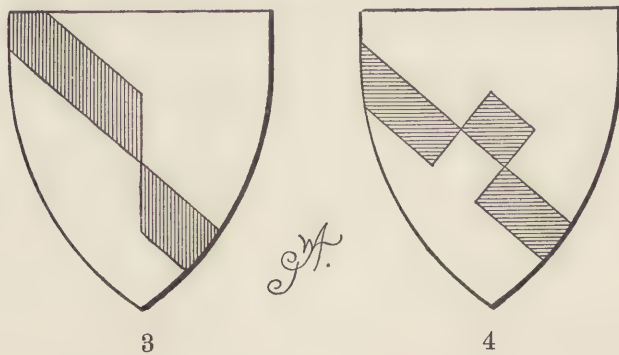
in the lower half of its thickness, and is supported by a solid course of

stone. Where blind arcades or attached vaulting shafts are introduced their bases usually rest upon the bench table, as in the accompanying illustration, Fig. 1, from the choir aisle of the church of Norrey (Calvados). This shows the general form of treatment, but in many cases the bench table is moulded on its edge, and is carried under the larger bases of the attached pillars, following their plan; and forming sub-bases or footstalls to them.

BEND. (*Bend dexter.*) In heraldry, the bend is one of the honourable ordinaries. It is formed by two lines drawn diagonally across the field of the shield, embracing the dexter chief and the sinister base points, and passing at equal distances from the fess point. It usually encloses one-fifth of the field, as in Fig. 1. A is the dexter chief point; B the sinister



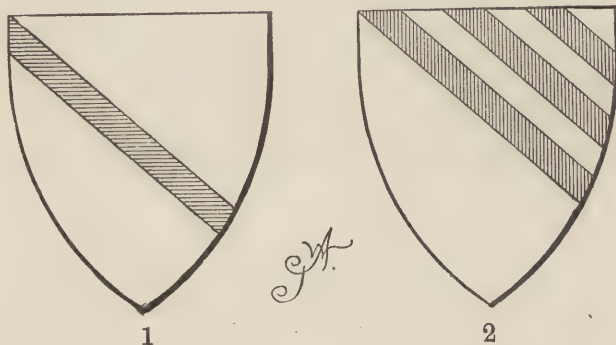
base point; and C the fess point. According to Legh and certain other authorities on heraldry, the bend, when charged only, should occupy one-third of the area of the field. When the bend is simply described as



charged with any object, it must be understood that the charge is placed in the centre of the ordinary, that is, on the fess point. It is occasionally charged on its upper part, towards the dexter chief point. Two bends may appear on the same shield, as in Fig. 2.

The bend has sometimes been used in the broken or cut forms shown in Figs. 3 and 4; it is then described as the **BEND FRACTED**, **DEBRUISED**, or **REMOVED**. The form in Fig. 3 has also been termed the **BEND DOWNSET**.

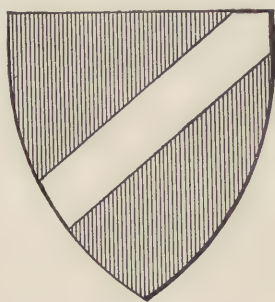
BENDLET. A diminutive of the bend, correctly one-half of the bend in width, and placed on the shield, as shown in Fig. 1.



In old heraldry, the bendlet was used, over a coat, as a mark of cadency. Two or more bendlets are frequently used on one field. When they are placed in the upper part of the shield, between the fess and the sinister chief points, they are described as **BENDLETS ENHANCED**, as in the arms of Byron, Fig. 2. (Example—*Argent, three bendlets enhanced, gules.*) The bendlet is sometimes termed the **GARTER** or **GARTIER**.

For the other diminutives of the bend, see articles *Cottice* and *Riband*.

BEND SINISTER. The ordinary in all essentials similar in proportions and treatment to the bend dexter, but placed across the field of the

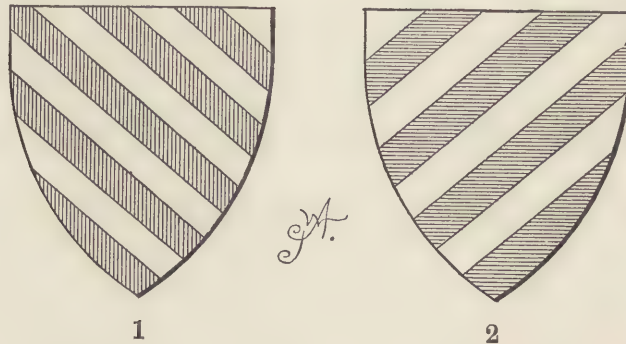


shield in the contrary direction, that is, from the sinister chief to the dexter base. (Example—*Gules, a bend sinister, argent.*)

For the two diminutives of this ordinary, see articles *Baton* and *Scarpe*.

BENDY. The term used in heraldry to denote that the field of a shield is divided bendwise into an even number of equal parts, in blazoning the

number being specified. Fig. 1. (Example—*Bendy of ten, argent and gules.*)



BENDY SINISTER is similar to bendy, but drawn in the contrary way. Fig. 2. (Example—*Bendy sinister of eight, argent and azure.*)

BENEDICT, ST. The founder of the Benedictine order of monks. He "was born in Norcia, about the year 480. At the age of fourteen, his father, Eutropius, sent him to Rome to complete his studies; but being shocked at the licentious conduct of his companions, secretly left the city, and betook himself to the desert mountains of Sublacum, where he lived in solitude about three years. His retreat being discovered, and the reports of his sanctity spread abroad, several monks came to him, and placed themselves under his direction; but the strictness of Benedict's discipline soon rendered him unpopular amongst certain slothful monks. Disciples, however, continued to flock around him, so that he was compelled to build, at different times, twelve monasteries, to which he gave rules of the strictest discipline, in which silence, solitude, prayer, humility, and obedience are specially enjoined. He himself afterwards retired to Monte Cassino, on which stood a temple dedicated to Apollo. By his eloquence and miracles he caused the worshippers to embrace Christianity, destroy the temples, break the idols in pieces, and cut down the sacred grove. Here he established three religious houses, two for monks, and one for nuns."* St. Benedict presided over the houses of Monte Cassino fourteen years. In 540 he was visited by Totila, king of the Goths, who prostrated himself at his feet, asking his blessing. Three years after this event, St. Benedict died of a fever, caught while attending the poor of the neighbourhood. He died on the 21st March, 543.

In art, St. Benedict is represented both in a black and in a white habit. The former is the original habit of his order, and he is invariably invested with it when represented as the patriarch of the Benedictine order which acknowledges the convent of Monte Cassino as its parent institution.

* *Lives of the Saints.* London, 1869.

When represented in a white habit, he appears as the patriarch of the reformed orders, as the Camaldolesi, Cistercians, and Carthusians.

His attributes are a cup on a book; a cup with serpents, on a book; a cup broken, and the contents flowing out: all these allude to the miracle told in his legend—When one of his discontented followers handed him a cup containing a poisoned drink, it broke into pieces as the saint made the sign of the Cross over it. Another attribute is a raven, sometimes with a loaf of bread in his bill: this appears to allude to another attempt made to poison him. The legend is thus told by Mrs. Jameson:—"The wicked priest Florentius, being filled with jealousy and envy at the superior sanctity of Benedict, sent him a poisoned loaf. Benedict, aware of his treachery, threw the loaf upon the ground, and commanded a tame raven, which was domesticated in the convent, to carry it away and place it beyond the reach of any living creature." When a sieve is introduced in pictures of the saint, it is in allusion to one of his earliest miracles. His old nurse, Cyrilla, breaks a sieve which she has borrowed from a neighbour, on which St. Benedict makes it whole again. Thorns and nettles are sometimes introduced, in allusion to his self-punishment to enable him to resist temptation. He also carries an asperge, the sign of his power of withstanding the attacks of the Devil. Lastly, he carries a pastoral staff, and book in which are written the first words of his rule, "AUSCULTE, FILII, VERBA MAGISTRI."

BENATURA. (*Fr. Benetier.*) The late Latin term for a holy water stoup. (See *Stoup*.)

BERYL. (*Lat. Beryllus.*) A precious stone, usually of a green colour approaching a light blue tint, resembling the colour of the sea, hence the name commonly given to it, *aquamarine*. This stone is of the same chemical composition as the emerald, differing only from it in colour. Besides the sea-green tint, beryl presents other shades of green passing into yellow; and it is occasionally met with perfectly colourless.

"The beryl was the only one amongst the precious stones that was faceted by the Roman jewellers, who cut it into a sexangular pyramid, as otherwise it had no brilliancy. Beryls were then highly prized, both for the purpose of ear-drops and of mere ornamental, *i.e.* not engraved, ring-stones."* "The beryl was well known to the Romans. Pliny mentions it as the gem green as the sea, 'qui viriditate puri maris imitantur,' and hence its name, 'aquamarine.' Beads of aquamarine have been found in Egyptian mummy-pits, and the Greeks employed the stone for intaglios more than two thousand years ago."†

The beryl was one of the stones in the fourth row of the breast-plate of Aaron the high priest; and it is mentioned in the Apocalypse as the eighth foundation-stone of the heavenly Jerusalem.

* *The Natural History of Gems*, by C. W. King, M.A.

† *Diamonds and Precious Stones*, by H. Emanuel, F.R.G.S.

Like most of the other precious stones, the beryl was invested by the middle-age writers with a symbolical significance. We thus find it described by Marbodius, in his *Cives Cœlestis Patriæ* :—

“ The sunshine on the sea displays
The watery BERYL’s fainter rays :
Of those in this world’s wisdom wise
The thoughts and hopes it signifies :
Who long to live more fully blest
With mystic peace of endless rest.” *

BESTIARIUM. The late Latin term, used by mediæval writers to designate a treatise devoted to the description of natural and fabulous animals. In addition to the descriptions of the outward appearance of the animals, their symbolical significations, and the virtues and vices they were supposed to represent, were given at some length. Such works are of great interest to the student of art, as they give a key to many of the grotesque sculptures which appear on mediæval buildings. MM. Martin and Cahier have done much to familiarise the modern reader with the bestia of the middle ages in their *Mélanges d’Archéologie*, both the first and the new series, 1847 and 1874.

The term bestiary is now sometimes used in describing the place in which the Romans kept wild beasts previous to their removal to the amphitheatres to fight with the *bestiarii*.

BETHLEHEM. A small building, attached to Ethiopic churches, usually at the eastern end of the sacrarium, in which the deacon prepares and bakes the bread for use in the eucharist. This building is called the Bethlehem, or “ house of bread.”

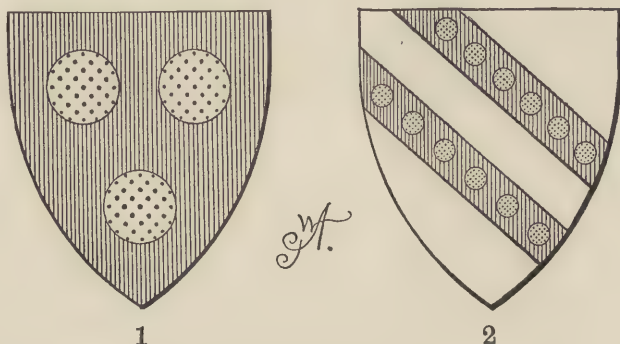
In early Christian art, Bethlehem (the town) is sometimes represented along with Jerusalem ; between them standing thirteen sheep, symbolising our Lord and the Twelve Apostles. This treatment is met with in the mosaics in the apses of the churches of St. Prassede, St. Clemente, and SS. Cosma e Damiano, at Rome. Bethlehem and Jerusalem are represented as small groups of buildings, and are evidently introduced in allusion to the Nativity and Crucifixion—the beginning and end of our Lord’s life on earth. The Abbé Martigny (*Dict. des Antiq. Chrét.*) believes them to represent the Jewish and Gentile churches, but we cannot find any good reason for this interpretation. The early Christian artists, had they intended anything beyond the very obvious allusion, would have taken direct means, by inscriptions or otherwise, to inform us of their intention.

* Translated by the Rev. J. M. Neale, D.D., who further adds :—“ ‘ The Beryl,’ according to our author, ‘ shines as water that reflects the sun, and warms the hand that holds it. It signifies those who are frail by nature : but, being enlightened by the Sun of Righteousness, shine with good works, and warm others by the example of their love.’ Ayguan says : ‘ The Beryl, whose virtue is to cause love, to bestow power, and confer healing, sets forth the eighth Article : *I believe in the HOLY GHOST.*’ ”—*Mediæval Hymns and Sequences.*

We have never to look very deep for the meaning of the early Christian artists, at least after the "Peace of the Church" under Constantine.

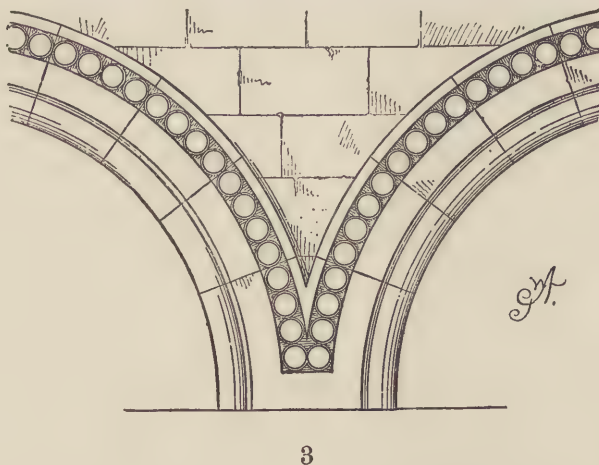
BEVEL. The term commonly used in architectural nomenclature for a slope formed on the horizontal line of a stone or piece of brickwork.

BEZANT. In heraldry, the bezant is a gold roundle, deriving its name from its likeness to a gold coin of Byzantium, well known in the



middle ages. It is invariably represented flat, as in Fig. 1. (Example—*Gules, three bezants.*) When the field of a shield, or any charge, is studded with bezants, it is described as *BEZANTÉE*, as in the arms of De Welle, Fig. 2. (Example—*Argent, two bendlets, gules, bezantée.*)

Derived from this charge, the term bezant has been used to designate a simple class of architectural enrichment, formed by a succession of



uniform discs, cut from a flat surface, sometimes with their edges square, and at others chamfered. Fig. 3 supplies an example of the

latter form of bezant, from the arches in the upper stage of the tower of the abbey church of Charité-sur-Loire. In this tower, the bezant also appears, in two rows, as an enrichment on the face of square attached shafts, and, in a single row, on the mouldings of a corbel table. The bezant occurs in Ernulph's work (A.D. 1100), in Canterbury cathedral. This enrichment appears to have been chiefly used in the early part of the twelfth century; but appears never to have become common either in this country or on the continent.

BIACCA. (*Ital.*) The term given by the early Italian painters to the white carbonate of lead, now commonly known as "white lead." According to Cennino Cennini, it was used for painting in secco, but not in fresco; and, according to Armenino, it was used, in equal parts, with fine fresh gesso (gypsum, or plaster of Paris), in the preparation of crayons for cartoon drawing.

BIADETTO. (*Ital.*) This term is frequently met with in old treatises on painting, where it is evidently intended for a blue pigment produced from copper, probably similar in all essentials to our "mountain blue." Mrs. Merrifield says:—"This term, which occurs so frequently in technical works on painting, has been applied both to the native and to the artificial pigment prepared from copper. There is no doubt that, at an early period of art the natural pigment (which was of a much finer colour than the factitious) was much used. Mr. Eastlake has discovered the true derivation of the term 'biadetto' in the *Bladetus de Inde* of the Venetian MS., which is identified by De Mayerne with 'la cendrée,' and *beis* or *bice*. 'La cendrée' is described to be 'made of the blue stone which comes from India, and which is found in silver mines.' " *

BIANCO SANGIOVANNI. (*Ital.*) The white pigment largely and universally employed by the Italian painters in fresco. Cennino Cennini has left us full particulars as to its preparation, which are as follows:—"Take very white slacked lime; pulverise it, and put it into a little tub for the space of eight days, changing the water every day, and mixing the lime and water well together in order to extract from it all unctuous properties. Then make it into small cakes, put them upon the roof of the house in the sun, and the older these cakes are, the whiter they become. If you wish to hasten the process, and have the white very good, when the cakes are dry, grind them on your slab with water, and then make them again into cakes, and dry them as before. Do this twice, and you will see how perfectly white they will become. This white must be ground thoroughly with water. It is good for working in fresco, that is, on walls, without tempera; and without this colour you can do nothing,—I mean, you cannot paint flesh, or make tints of the other colours which are

* *Original Treatises on the Arts of Painting.* London, 1849. Vol. i., p. ccii.

necessary in painting on walls, namely, in fresco ; and it never requires any tempera."*

This pigment has also been designated BIANCO SECCO.

BIBERON. (*Fr.*) The name occasionally given to a description of vase or vessel of pottery furnished with a small tubular spout. The term appears to have originally signified an infant's feeding bottle. It is now also used to signify simply a tubular spout, attached to a basin or other vessel. (See *Basin* or *Bason*.)

BIBLIOTHECA. (*Gr.* βιβλιοθήκη.) The term derived from the Greek βιβλίον, a book, andθήκη, a repository, and employed by the ancients to designate an apartment, either public or private, devoted to the reception and preservation of books ; and sometimes applied to a collection of books itself, without any special allusion to the apartment which contained it.

The most important bibliotheca, or library of antiquity, was that founded by the Ptolemies, at Alexandria. According to Gellius, it contained 700,000 books ; according to Josephus, 500,000 ; and according to Seneca, 400,000 volumes. This magnificent library was in great part destroyed by fire during the siege of Alexandria by Julius Caesar. It was afterwards restored, and remained in use until destroyed by the Arabs in A.D. 640. The first public library formed in Rome was that founded by Asinius Polio, in the atrium Libertatis, on the Aventine. Its extent is not known ; but it is described as having been decorated with statues of Minerva and the Muses, and with the busts and portraits of celebrated authors and philosophers. The next important library was founded by Augustus, in the temple of Apollo on Mount Palatine. The most famous, however, of all the Roman libraries, was that founded by Trajan, and called, after his own name, Ulpian, the Ulpian. Diocletian attached this bibliotheca to his great thermae.

All Roman houses of any pretensions contained an apartment for the reception of books, called the bibliotheca. In one of the houses discovered in Herculaneum, such an apartment was found, fully furnished. It was of very small dimensions ; and around the walls, and in the form of a quadrangular pillar in the centre, were numbered cases with shelves, on which were laid the books in rolls, nearly eighteen hundred in number. The cases commonly used for books are called by ancient authors, *armaria*, *nidi*, and *loculamenta*.

Vitruvius directs that "libraries should be made to front the east ; because the morning light is necessary for them ; and books are better preserved when the air and light are received from that quarter. When libraries have a southern or a western aspect they admit those winds ; which, at the same time that they carry with them moths, instil also damp vapours into the books, which, in process of time, cause their decay." †

* *A Treatise on Painting*, by Cennino Cennini, translated by Mrs. Merrifield. London, 1844.

† *Civil Architecture of Vitruvius*.—Wilkins' translation, p. 219.

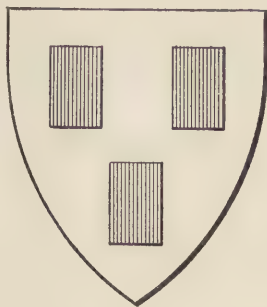
BICE. A fine blue pigment, also known by the names *IRIS* and *TERRE BLEU*, and formerly written *BISE*. Field remarks that it "is sometimes confounded with the copper blues (*blue verditer*, *cendres bleues*, and *mountain blue*); but the true bice is said to be prepared from the *lapis Armenius** of Germany and the Tyrol, and is a light bright blue. Ground smalts, blue verditer, and other pigments, have passed under the name of bice, which has, therefore, become a very equivocal pigment, and its name nearly obsolete; nor is it at present to be found in the shops."

GREEN BICE is a name given to a pigment more correctly designated *green verditer*; produced, according to Field, by boiling blue verditer.

BIFRONS. (*Lat.*) Signifying, literally, two-faced, as in the representations of Janus, in Roman art. The two faces are supposed to express knowledge, both of the past and of the future.

BILL. A weapon much used by foot-soldiers in the fifteenth and sixteenth centuries. It consisted of a broad blade attached to the end of a long staff. The blade was curved forward, like a scythe, at its cutting edge; and had two spikes attached, one pointing forwards, in a line with the staff; and another at right angles, from the back of the blade. A drawing of an English bill, of the time of Henry VIII., is given in the *Archaeological Journal*, vol. iv., p. 255. The bill was chiefly used in attacking horsemen; and was, in all respects, a formidable weapon when skilfully used.

BILLET. In heraldry, one of the subordinaries. It is a small oblong figure, commonly supposed to represent a sheet of paper folded as a letter. It may appear of any tincture. (Example—*Argent, three billets, gules.*)

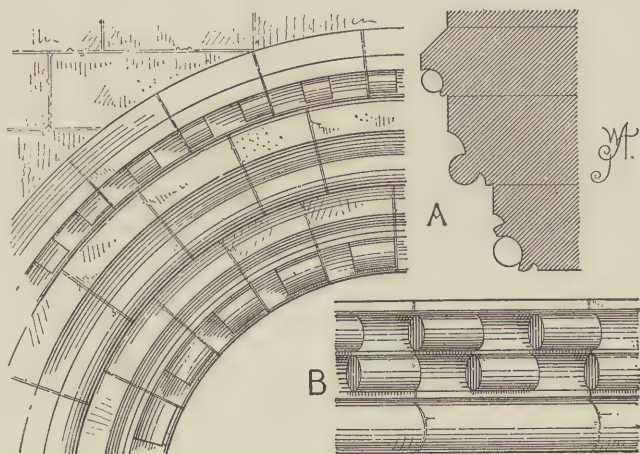


When the field of a shield or any charge is studded or powdered with billets it is described as *BILLETÉE*.

BILLET MOULDING. An ornamental moulding of a simple character, commonly met with in French architecture of the eleventh

* See article *Armenium*.

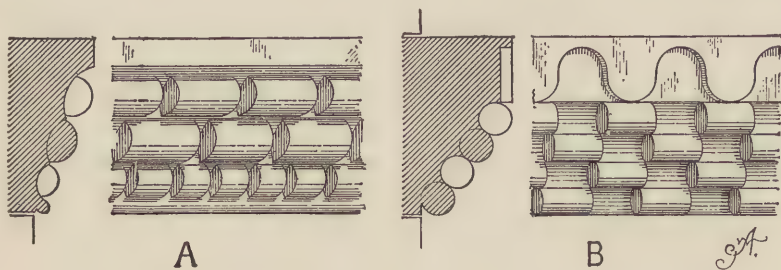
and twelfth centuries, and in Anglo-Norman work, but rarely in work of the Early English period. Its normal form consists of a series of short cylindrical objects, resembling small billets of wood, disposed at regular intervals in a semicircular casement. The moulding is formed by simply



1

cutting a bowtel, leaving the billets and sinking the spaces between them into the form of a casement, as in the examples given in Fig. 1. A is from the windows of the fifth stage of the tower of Saint-Romain, Rouen cathedral; and B, from Binham Priory, Norfolk.

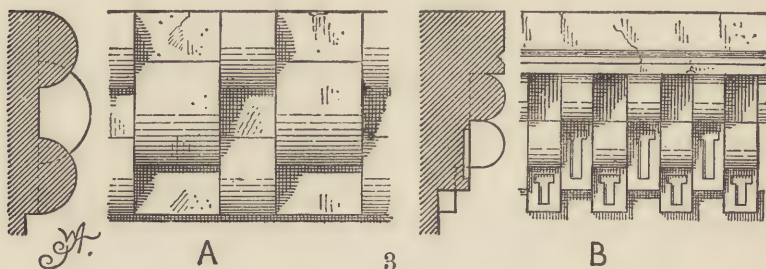
Although this may be considered the normal type of billet moulding, it appears in a great number of modified forms, and frequently in three or four orders placed in contact, as at A, Fig. 2, from a Romanesque abacus found in the church of Poissy (Seine-et-Ouse). This example is attributed



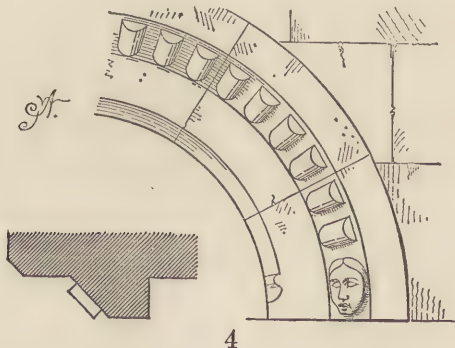
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by Viollet-le-Duc to the seventh century. B, from the church of St. Contet, near Caen, shows the normal form in four equal orders. A, Fig. 3, is probably a unique example of the billet moulding, consisting of three orders, with the billets setting in between each other. It is from the church of Saint-Étienne (Abbaye-aux-Hommes), Caen. In this example

the billets are semicircular, projecting from a flat surface. B is from a cornice in the church of Saint-Aphrodise, at Béziers (Hérault), in which appear two orders of billets, projecting rather more than their half diameter from a flat ground. The adoption of half or semi-



billets is frequent in Norman work, but they do not produce the rich effect of light and shade observable when complete billets are projected from the semicircular casement. A curious example of the use of the semi-billet is supplied by the hood-moulding of a window on the south side of the chancel of Burnby church, Yorkshire. Here the billets are not disposed end to end, as is usually the case, but side by side and radiating towards the centre of the arch, Fig. 4. Good examples of the



ordinary semi-billet moulding are to be found in the church of St. Mary, Leicester, Peterborough cathedral, Waltham abbey, Malmesbury abbey, and the church of the Holy Trinity (Abbaye-aux-Dames), Caen.

A moulding formed, after the fashion of the billet moulding, with a succession of square or cubical blocks, has been designated the *square billet moulding*; this we illustrate under the more correct name of the *cube or die moulding*. (See *Cube or Die Moulding*.)

BILLIARD ROOM. An apartment constructed for the reception of one or more billiard tables. A properly constructed billiard room should have a perfectly level and rigid wooden floor; walls covered with wood-

work to the height of seven or eight feet, or entirely panelled with wood, as taste may direct; a central lantern light, with sloping sides, perfectly water tight, and not made to open; a system of ventilation under perfect control; and one or two open fireplaces. The dimensions of the room are of great importance, for if made too small the players are put to considerable inconvenience. An ordinary full-sized English billiard table measures 12 feet by 6 feet, and round this a clear space of not less than 6 feet should be provided for the use of the players. Between this space and the walls should be constructed a raised platform or step, from 10 to 12 inches high, for the reception of the seats, which are placed against the walls, and from which persons watch the game. Of course the platform is interrupted at all the doors, fireplaces, etc. The height of the room is not of much importance so long as it is not less than 12 feet, exclusive of the lantern light. The table is artificially lighted by a pendant carrying six or, what is better, eight lights; provided with large shades, painted white inside so as to reflect as much light as possible on the surface of the table. The burners should be about three feet above the table; and the end burners on each side should be directly over the "balk lines." It is always desirable for the pendant to be so constructed as to carry away the vitiated air direct from the burners, discharging it either into a flue or the open air. When possible electric lamps should be used, doing away with the unpleasant and unhealthy gas lights. Convenient places on the floor and walls must be arranged for the cue racks, marking boards, framed slates, rules of the game, etc. Adjoining the billiard room should be provided a convenient lavatory and dressing room.

BIPENNIS. An axe with two blades, one placed on each side of the haft, used by the ancient Romans. It is usually depicted in the hands of the Amazons; and has accordingly been designated the **AMAZONIAN AXE**.

BIRD. From the times of the ancient Egyptians to the present day, birds have been frequently represented in art works. In the early epochs they appear to have been exclusively introduced with a religious or symbolical significance: in later and modern times they were freely used as ornamental features, devoid of any direct signification.

In Egyptian art birds are introduced in great numbers and variety. Sir J. Gardner Wilkinson gives a list of no fewer than thirty-eight kinds which occur in sculptures;* and he remarks:—"Many other birds are figured in the sculptures; but as it is difficult to determine the exact species to which they belong, I shall not hazard any conjecture upon their names." Certain birds were held as sacred by the Egyptians, among which may be mentioned the vulture, eagle, hawk, and ibis. The goose, though not classed among the sacred birds, was used as the emblem of the

* *The Manners and Customs of the Ancient Egyptians*. Vol. iii., p. 261 (New Edition, London, 1878.)

god Seb; accordingly he was sometimes represented with a goose on his head.¹ Vultures are rendered in a strictly conventional manner, representing both the goddesses Uati and Nissem, distinguishable only by the crowns they wear, and the hieroglyphic legends which accompany the emblems respectively. The vulture appears to have been emblematic of the goddess Neith: and the sculptures show it to have been connected with other deities. (See *Vulture*.) The eagle is repeatedly found in hieroglyphics signifying the letter *a*, the initial of its Coptic name *akhôm*. The hawk was of all the birds most held in veneration, being commonly accepted as the emblem of the Deity; and from the sculptures we find that it was specially sacred to the sun-god Ra. It was worshipped at Heliopolis, Hieraconpolis, and Philæ. (See *Hawk*.) The ibis was sacred to the god Thoth, "who was fabulously reported to have eluded the pursuit of Typho under the form of this bird. It was greatly revered in every part of Egypt; and at Hermopolis, the city of Thoth, it was worshipped with peculiar honours, as the emblem of the deity of the place. It was on this account considered, as Clemens and Ælian tell us, typical of the moon, or the Hermes of Egypt. Such was the veneration felt by the Egyptians for the ibis, that to have killed one of them, even involuntarily, subjected the offender to the pain of death; and 'never,' says Cicero, 'was such a thing heard of as an ibis killed by an Egyptian.'"² The god Thoth is almost invariably represented with the head of this bird.

In Egyptian art the soul was sometimes symbolised by a bird. Sir J. Gardner Wilkinson gives an illustration of the emblem in his valuable work.³ In this drawing a king appears before the god Amen, holding in his left hand a bird, emblematic of a "pure soul."

The only strictly speaking fabulous bird, setting aside such compound creatures as a vulture with a snake's head, and the hawk with a man's or ram's head, met with is the phoenix. For remarks on this we must refer our readers to article *Phoenix*.

We find, therefore, in the earliest known epoch of art, birds freely introduced both in a natural and fabulous form, and used as emblems and religious figures; in the latter case freely conventionalised and applied as decorations on ceilings and other parts of temples.

In Assyrian art, birds do not appear to have been much used, although winged figures were represented in great numbers; and notably figures with the head and wings of an eagle, representing the god Nisroch. Representations of this god are to be seen in Fig. 1, in article *Assyrian Architecture*.⁴

In Classic art, birds have frequently been represented. The eagle was

¹ *Manners and Customs of the Ancient Egyptians*. Vol., iii., p. 60, fig. 516.

² *Ibid.* Vol. iii., p. 321.

³ *Ibid.* Vol. iii., p. 353, fig. 592.

⁴ For a short dissertation on this figure, see *Nineveh and Persepolis*, by W. S. W. Vaux, M.A., pp. 37-39. Fourth Edition; London, 1855.

held sacred to Zeus, and commonly appeared in representations of the god, sometimes as the bearer of his thunderbolts. In the early temples, dedicated to Zeus, sculptured eagles occupied important positions in or on their pediments. (See *Aetos*.) The birds sacred to Phœbus Apollo were the hawk, raven, and swan. Aphrodite is represented on antique gems in a car drawn by swans, doves, or sparrows. These birds, along with the swallow and iynx or fritillus, were the sacred attributes of the goddess. The owl was sacred to Pallas Athena; and the peacock and cuckoo to Hera. Speaking of the latter goddess, Keightly remarks:—"The gaudy stately peacock eclipsed all others in the estimation of the Olympian queen. She is said to have formed him from the blood of the many-eyed Argus, the keeper of the hapless Io. The poet Moschus thus describes the origin of the peacock on the basket of Europa, into which she was gathering flowers when carried off by Zeus:

Around beneath the curved basket's rim
Was Hermes formed, and near to him lay stretched
Argus, with ever-sleepless eyes supplied;
Out of whose purple blood was rising up
A bird, whose wings with many colours glowed:
Spreading his tail, like a swift-sailing ship,
The golden basket's edge he covered o'er.

Ovid says that Hera planted the eyes of Argus in the tail of her favourite bird; and Nonnus asserts that Argus himself was turned into this bird.*

The Roman signum or great military standard was from the second consulship of Marius (B.C. 104) an eagle mounted upon a pole: sometimes it carried a thunderbolt in its talons. In representations of an apotheosis, eagles are depicted bearing the form of the deified one to the celestial regions. The phoenix is also met with on medals, expressive of the same event. (See *Apotheosis*.) These few particulars are sufficient to prove that the Greeks and Romans were not behind the Egyptians in the use of bird forms in their architectural and art works.

We now come to Christian art, in which our survey becomes deeply interesting, not only on account of the frequent occurrence of bird forms, but also on account of their interesting symbolism. As in our article *Animal*, we must here confine our remarks to the subject of bird representation in its general aspect, referring the student for details concerning the modes of artistic treatment and symbolism to our articles on the different birds. (See *Dove*, *Eagle*, *Pelican*, *Phoenix*, &c.)

Birds appear on the earliest Christian tombs; but it is difficult, and in many cases impossible, to assign them to any particular species. These are commonly supposed to represent the released souls of the converts winging their way to heaven. Did this emblem occur to the early

* *The Mythology of Ancient Greece and Italy*. London, 1831.

Christians? or did they know that many centuries before the Egyptians had so symbolised the human soul in their art works? In the frescoes and sarcophagi of the catacombs, the dove, eagle, and phoenix have been found, all evidently used with symbolical significance. In the mosaics on the vaults of the church of St. Constantia, at Rome, executed in the middle of the fourth century, diaper and floral patterns occur in which birds are introduced in great numbers, apparently without any special meaning. The birds are executed with much spirit and life. In the sixth century an ornamental composition was very frequently used both in sculpture and mosaic work; it consists of two birds, generally doves, facing towards a vase, placed between them. Examples are to be seen over the arches of the clerestory windows of the church of St. Apollinare Nuova, at Ravenna; and above these are what appear to be large crowns, surmounted with crosses, on each side of which are doves. The signification of the doves and vase has been disputed; by some authorities the vase is supposed to represent the chalice, by means of which the souls of the departed were nourished and joined to Christ; by others it is supposed to represent a cinerary urn, the doves probably signifying the souls of the just set free.

The earliest examples known of the birds and vase are to be seen in the mosaics covering the vault of the oratory of the baptistery of Constantine, constructed in all probability during the lifetime of Constantine. The vases in these mosaics go far to upset the theory that cinerary urns were intended by the early artists; they carry, heaped up, round objects of a yellow colour, either intended for fruit or small rolls of bread. If the latter, the sacramental idea gains strength. The birds are well drawn, and differ in the several compartments; doves and ducks are easily recognised. On the carved sarcophagi of the archbishops of Ravenna, in the basilica of St. Apollinare in Classe, we find two birds drinking at a vase and two peacocks pecking at grapes; the latter appear to allude to the Sacrament, or a blissful immortality gained through the blood of Christ, figured by the grapes. The peacock is found in the paintings in the catacombs, where it is evidently intended to signify the resurrection of the soul. The bird is found represented on Roman imperial coins, carrying to heaven a female figure, understood to be Juno; from some such source as this there can be little doubt the early Christians derived their emblem.

In mediæval art birds appear as architectural enrichments and in all departments of ornamental work. So far as symbolism is concerned, the most important are the dove, the eagle, the pelican, cock, peacock, phoenix, and a nondescript bird which impersonates the Spirit of Evil. All these we treat of at length in their special articles. As ornamental features, without any direct significance, birds are met with in all branches of mediæval decorative art. In Romanesque architecture they occupy an important place in ornamental sculpture, usually treated in a conventional manner and associated with interlaced foliated work. In embroidery, and

in the rich woven tissues brought from the East during the middle ages, birds appear in great profusion: a beautiful example, of the twelfth century, is preserved in the treasury of Saint-Sernin, at Toulouse. It is covered with peacocks conventionalised in a most artistic manner. An



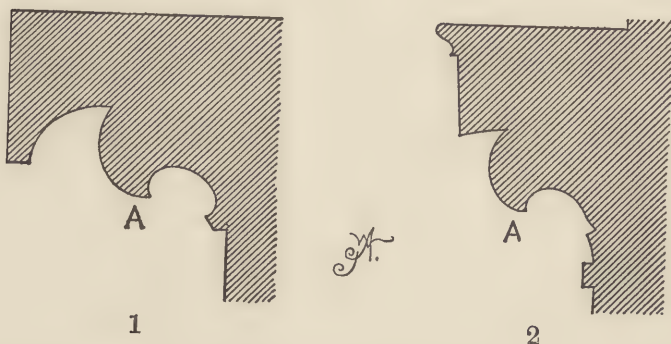
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outline drawing of the design is given in Fig. 1.* In Celtic art we find bird forms made ingenious use of in the construction of diaper patterns and other ornaments. The Irish manuscripts furnish the most remarkable examples of these. In the buildings of the thirteenth and fourteenth centuries numerous sculptured birds are to be found. In the shape of gargoyles, fine examples are to be seen at the cathedral of Amiens; and at the cathedral of Paris spirited birds occupy some of the angles of the parapet at the belfry stage. One of these is figured in our article *Pelican*. Of the numerous grotesque sculptures in which bird forms are introduced, it is unnecessary to speak here; some are supposed to have a meaning, but by far the greater number are purely fanciful and devoid of interest.

Of the modes adopted by heralds in depicting birds and bird forms we briefly treat, under their proper names, throughout our Dictionary.

* Developed from the sketch given by De Caumont in his *Abécédairé d'Archéologie*.

BIRD'S BEAK MOULDING. A moulding met with in Classic architecture, in section somewhat resembling the upper half of the beak of an eagle or parrot. Instances of its use occur in the temple of Minerva, at Athens, A, Fig. 1; the choragic Monument of Thrasyllus, at



Athens, A, Fig. 2; the Doric Portico; and the temple of Theseus, at Athens. In much more pronounced forms it appears round the basins of certain fountains, as those in front of the church of St. Maria Maggiore, and the palazzo Farnese, at Rome.

BIRD'S EYE PERSPECTIVE. This method of drawing, as the name implies, attempts to represent a view or group of buildings as seen by the eye of a bird, flying at a considerable height from the ground. We say *attempts*, for no system has yet been introduced which produces a perfectly satisfactory result. Bird's eye perspective differs from the ordinary perspective in having its horizontal line considerably above the objects depicted, the vanishing points being similar in both methods. Bird's eye perspective never appears to have come much into favour, owing chiefly to the awkward aberration or distortion which occurs at the extremities of the picture. For all practical purposes of the architectural draughtsman the method designated *Isometrical Perspective* is to be preferred.

BISCUIT. (*Fr.*) The term commonly employed by potters to designate unglazed porcelain, or such ware as is used for statuettes. All colours which are fired under-glaze are laid directly on the ware in its biscuit state. Biscuit is more or less porous in its nature, and on this account is used for vessels for cooling water.

BISELLIUM. (*Lat.*) A seat, as its name implies, capable of accommodating two persons, but which appears to have invariably been occupied by one only. It was a seat granted as a mark of honour to distinguished individuals, as in the case of Caius Calventius Quietus, Augustal, to whom, as an honorable reward for his munificence, the

bisellium was granted by a decree of the Decurians and the consent of the people. The bisellium was used only in provincial towns, and there in the same manner as the sella curulis, or chair of state, was in Rome. Varro is the only ancient writer who mentions the bisellium; and had it not been for discoveries made in Pompeii we should know little about its form. In two sculptured representations it is shown covered with a fringed cloth, and has only one footstool, clearly indicating its occupation by a single person. Besides these sculptures two actual bisellia of elaborate workmanship were found, and are now preserved in the Museo Nazionale, at Naples. Engravings of these are given in the *Real Museo Borbonico*.* They consist of a flat seat, supported by four elaborately moulded legs, bound together a little above their mid-height by a strong frame. Between this frame and the seat are curved supports, which originally terminated in animals' heads.

BISTRE. A pigment, according to Field, "extracted by watery solution from the soot of wood-fires, whence it retains a strong pyroligneous scent. It is of a wax-like texture, and of a citrine-brown colour, perfectly durable. It has been much used as a water-colour, particularly by the old masters in tinting drawings and shading sketches, previously to Indian ink coming into general use for such purposes. In oil it dries with the greatest difficulty. A substance of this kind collects at the back of fire-places in cottages where peat is the constant fuel burnt; which, purified by solution and evaporation, affords a fine bistre. Scotch bistre is of this

* *Reale Museo Borbonico*, Rome, 1838. Vol. i., pl. L. Attending the illustrations are the following remarks by Pistolesi:—"Chiamavasi *Bissellio* quella sedia d'onore, con cui gli abitatori de' municipii o delle colonie romane rendevano privilegiate le persone, che pel loro autorevole grado credevano degne d'una marcata distinzione. Questa sedia, capace di due persone era per altro destinata ad un solo, che fosse costituito in dignità, a similitudine di quello che si praticava da' Romani verso i propri magistrati, quali facevan sedere sulle sedie dette curuli, uso attinto dagli Etruschi, allorchè raunavansi, sia nelle sacre ceremonie, o nelle discussioni de' pubblici negozi; così gli antichi davano onoranza agli uomini in autorità stabiliti, accordando a' medesimi cospicue e distinte sedie.

"L'onore del Bissellio tenevasi presso gli antichi in gran conto, e se ne concedeva uno alto e magnifico non solamente alle autorità costituite in carica, come già dissi, ma sì bene a coloro che per segnalati servigi, l'avessero meritato dalla patria. Simile onore s'impartiva con decreto de' decurioni, ratificato dal popolo, che vi annuiva col suo consenso. Le colonie e i municipii erano governate per decurioni e duumviri, ad esempio di Roma, che reggevasi per senato e consoli. Ai duumviri spettava per legge l'onore del Bissellio; nè può dirsi che fosse lo stesso che l'onore del duumvirato, senza andar soggetto, per determinarlo, a discussioni troppo lunghe, e neppure assicurarsi con qualche dose di certezza, che i Bisselli fossero la cosa medesima, come oggidì presso di noi lo è la sedia del sommo sacerdote o il trono de' re. Tali Bisselli, secondo le località per le quali erano destinati, avevano forme diverse e svariate altezze. I più alti servivano forse per le orchestre de' teatri, perocchè superando in altezza le altre sedie, rendessero più libera e più comoda la vista dello spettacolo a chi vi sedeva, o anche per tenere nelle numerose assemblee in maggiore altezza colui, che sopra tutti gli altri quivi convenuti, serbasse maggiore autorità e distinzione. Se erano bassi avevano un suppedaneo o predellino d'un solo gradino, onde posarvi i piedi, e questo distinguevasi col nome di *scabellum*; se poi erano alti, avevano in quella circostanza una predella o suppedaneo di più gradini, che serviva per ascendervi e posarvi i piedi; chiamavasi *scamnum*."

kind. All kinds of bistre attract moisture from the atmosphere." Bistre differs materially in quality according to the wood from which the soot is obtained; beech is considered to produce the finest colour. The best quality of Roman bistre has been highly prized by artists. Bistre is mentioned in mediæval treatises under the names *FULIGO** and *FULIGINE*.

BISTURRIS. According to Ducange, the late Latin for small towers placed at intervals in the walls of a fortress, projected so as to command the curtains. In Carpentier's *Glossarium Novum* it appears to be applied to a sort of barbican:—"Et adsolayretur Bisturris, quæ est ante ipsam turrim."

BIZARRE. (*Fr.*) Literally, fantastical, capricious, singular. The term is commonly used in art to express the effect of anything which is out of all order, and contrary to the canons of sound taste. In ornamental art, a class of enrichments which are purely fantastical, and associated without any real or apparent connection, are said to be bizarre. The term implies an effect startling and disagreeable to the cultivated eye.

BLACK. According to Field, "black is the last and lowest in the series or scale of colours descending,—the opposite extreme from white,—the maximum of colour . . . Black is to be considered as a synthesis of the three primary colours, the three secondaries, or the three tertiaries, or of all these together—and consequently also of the three semi-neutrals, and may accordingly be composed of due proportions of either tribe or triad. All antagonist colours, or contrasts, also afford the neutral black by composition; but in all the modes of producing black by compounding colours, blue is to be regarded as its archeus or predominating colour, and yellow as subordinate to red, in the proportions, when their hues are true, of eight blue, five red, and three yellow."

The black pigments in common use are chiefly obtained from animal and vegetable products, and derive their colour from the carbon they contain, produced by the charring processes resorted to in their manufacture. The more important pigments of this nature are ivory black, lamp black, Frankfort black, Spanish black, Indian ink, and blue black. There are some black pigments found in a natural state; such as mineral black, black ochre, black chalk, and graphite. All these will be found described under their respective names.

In mediæval art, black, like all the important colours, had a symbolical significance: modern poets have also acknowledged its power of expression. The middle age artists accepted it as the emblem of darkness generally,

* "*Fuligo est color niger vel quasi niger, ad croceum tendens, et veniens a camino ignis, aliter dicta caligo, et est etiam fumus candelæ et lampadis nigerrimus recollectus ad scutellam vel aliud vas ferreum, vel cupreum, vel terreum.*"—*Tabula de vocabulis sinonimis et equivocis colorum.* Mrs. Merrifield's *Original Treatises on the Arts of Painting*, vol. i., p. 27.

and of death, evil, falsehood, despair, mourning, and humiliation. Shakspeare frequently records the expressive power of black, and almost invariably in keeping with its mediæval significance. He says :—

“ News fitted to the night,—
Black, fearful, comfortless, and horrible.”

“ *Black* is the badge of hell,
The hue of dungeons, and the scowl of night.”

“ Stars, hide your fires !
Let not light see my *black* and deep desires.”

“ We mourn in *black*, why mourn we not in blood.”

Milton accepts the same symbolism, but adds wisdom to the list already given. He says :—

“ O'erlaid with *black*, staid Wisdom's hue.”

Field remarks :—“ Black is emblematical of mental degradation and crime ; the garb of the Harpies and Furies, the daughters of *Night*. In its moral effects individually, it is gloomy and terrific both in nature and art ; hence fear and horror are excited and augmented by darkness ; hence it has been the livery of woe, and the ensign of death and the devil, among every civilized people ; and hence the poets, priests, and rhetoricians have employed it ideally in designating the dismal, the dreadful, the criminal, the mournful, the horrible, and in every sentiment of *melancholy*, of which the very name denotes blackness and darkness. Such also are its expressive uses in painting, in which it is the instrument of solemnity, obscurity, breadth and boundlessness, the terrible, the sublime, and the profound ; and it is by contrast the prime power whereby all the magic of the *chiar'-oscuro* is produced.”

Black is one of the ecclesiastical or canonical colours used by the Church on Good Friday, and for funerals and masses for the dead. On this subject we cannot have a better authority than Durandus, bishop of Mende in the latter part of the thirteenth century. He says :—“ Black is used on Good Friday : and on days of abstinence and affliction : and also in Rogations. Moreover in those processions which the Roman Pontiff maketh with bare feet : and in Masses of Requiem, and Septuagesima to Easter Eve. But on the Feast of the Innocents, some use black on account of sadness, some scarlet.” *

In heraldry, the black tincture is commonly called *sable*. By those heralds who blazon by planets, it is designated *Saturn* ; while by those who blazon by precious stones, it is called *diamond*. (See *Sable*.)

* *Rationale Divinorum Officiorum*, Lib. iii., 18. English Translation by Neale and Webb. p. 231.

BLACK CHALK. There appear to be two natural materials which are designated by this name; one a description of bituminous schist, or ampellite, containing a small proportion of carbon, and the other the material described by Field as "an indurated black clay, of the texture of white chalk. Its principal use is for cutting into the crayons, which are employed in sketching and drawing. Fine specimens have been found near Bantry in Ireland, and in Wales, but the Italian has the best reputation."

BLACK OCHRE. Is a native impure oxide of carbon in combination with iron and alluvial clay. It is found in various countries. It is prepared for use by careful washing and exposure to the action of the air. This pigment is somewhat similar to mineral black, but is by no means so valuable in art.

BLANC D'ARGENT. A pigment also known by the name, French white. The term, blanc d'argent, is misleading, for the white is not a preparation of silver, nor does it in any way resemble silver in appearance. It is a very fine white lead, manufactured in Paris in the form of drops: it is, like all the varieties of white lead, a valuable pigment in oil, but altogether useless in water.

BLASIUS, ST. Bishop and Martyr; the Patron Saint of Ragusa, and a Patron of wool-combers and stonemasons. This saint was bishop of Sebaste, a city of Cappadocia, in Lesser Asia. After he had fulfilled the duties of his high office, he sought retirement on a hill near the city; and there spent his time in religious exercises and communion with God. During the persecution of the Christians under Diocletian, he was torn from his retreat, and on confessing before the governor of the province, Agricolaus, that he was a Christian, was cast into prison. He underwent numerous tortures with great fortitude, and received the crown of martyrdom some time in the beginning of the fourth century. Certain historians place the date of his death in the year 316.

In Western art he is generally represented in the complete vestments of a bishop, bearing a crosier and book, a wool-comb, the supposed instrument of his tortures, or a burning torch or taper. In the cathedral of Bonn he is represented carrying a crosier and taper. The latter attribute is typical of his being a "burning and a shining light." He has also been represented undergoing his torture, his flesh being torn with iron combs; with animals near him, which he is either healing or commanding to obey him, as in Callot's *Les Images de tous les Saints et Saintes de l'année* (Paris, 1636). In the same work he is shown with a boar's head near him; and with a bird bringing him food. When represented with beasts and birds, allusion is made to his solitary life during which the denizens of the wilderness became familiar with him. The boar's head is typical of his triumph over the sensual desires of the

flesh. In Eastern art, St. Blasius is depicted as an aged man with a pointed beard.

Three churches are dedicated to him in England: St. Blazey, in Cornwall; Milton, in Berkshire; and Haccombe, in Devonshire. The church of Boxgrove, in Sussex, is dedicated in the joint honour of SS. Mary and Blaisius. In the Roman, Old English (Sarum use), French, Spanish, German, and Scottish calendars, his day is February 2nd. In the Greek calendar his day is February 11th.

BLAZON OR BLAZONING. Term derived from the German word *Blasen*, to blow, especially to blow a trumpet. It is employed by heralds to signify a description of a coat of arms, from which every tincture, and the nature of every charge and its position on the field of the shield, may be accurately realised and represented. To blazon, therefore, is to proclaim by the voice, or describe in written language, all particulars relating to a coat of arms. The term is also used to signify the arrangement of the component members forming a complete heraldic composition. Historical blazoning, commonly designated *marshalling*, signifies the grouping together, in proper order, of several distinct coats of arms on one shield, usually for the purpose of recording the alliances of a family.

To blazon correctly requires a complete knowledge of all the parts, points, and divisions of the shield, the tinctures, the ordinaries, the dividing and border lines, the names of all charges and the terms which denote the condition in which they are to be represented; or, in short, it requires a perfect mastery of the language and laws of heraldry. The following able digest of this subject, from the pen of the Rev. Charles Boutell, M.A., is probably the most condensed and correct in our language:—

“*Heraldic Language* is most concise, and it is always minutely exact, definite, and explicit; all unnecessary words are omitted, and all repetitions are carefully avoided; and, at the same time, every detail is specified with absolute precision.

“The *Nomenclature* is equally significant, and its aim is to combine definite exactness with a brevity that is indeed laconic. As might naturally be expected, both the Language and the Nomenclature of Heraldry habitually indicate their Norman-French origin.

“Heraldic Devices are described, first, in the order of their comparative importance; and, secondly, in the order in which they are placed upon the shield, or other object that bears them. Thus the character of the surface of the shield itself, which forms the foundation of the heraldic composition, is first specified. Then follows a description of the principal charge, which occupies the most central and most commanding position, and which also is considered to rest immediately upon the surface of the shield. Objects of secondary importance, which also rest upon the shield itself, are next described; and finally, descriptions are given of such other devices and figures as may be placed upon another charge, and which consequently appear to be carried by an object that is nearer to the surface of the shield than they are themselves. In some instances, as when a *Chief*, a *Canton*, and a *Bordure* appear and are charged, the composition will require to be blazoned in two groups, precedence being given to the central and more important group.

"In blazoning any Charge, the title, position or disposition, tincture, and distinctive conditions of the device or figure are first to be specified, and then there will succeed such descriptions of details and accessories as may be necessary, in their order of comparative importance.

"If a *tincture* or a *number* should occur twice in the same sentence of any descriptive blazon, such tincture or number is to be indicated by reference to the words already used, and not by actually repeating them. Thus, should any Charge be of the same tincture as the field, it is said to be '*of the field*;' or, as the tincture of the field is always the *first* that is specified in the blazon, a Charge of that tincture may be blazoned as '*of the first*.'

"So any Charge is said to be '*of the second*,' '*of the third*,' '*of the last*,' &c., if its tincture be the same as the *second*, the *third*, the *last*, or any other that has been already specified. In the instance of the metal gold, instead of reference to the heraldic term '*or*,' the word '*gold*' itself may be used. The position or disposition of any Charge or Charges are to be blazoned first after the name or title of the Charge or Charges. When the same Charge is several times repeated in the same composition, the figures are generally arranged in rows, one row being above another. Such an arrangement is indicated by simply stating the number of the figures in each row: as '*six crosses crosslets*, 3, 2, 1,' to denote three in the uppermost row, then two below them, and the one crosslet in base.

"In heraldic descriptions, the presence and the position of the *stops* or *points* demand especial attention. A comma precedes and follows each item of every descriptive clause; and the consistent intervention of the more important points must be observed with rigid precision. The student will bear in mind that in Heraldry, while nothing is specified that can be distinctly and certainly understood without description, so nothing whatever is left to the possibility of contingency or misapprehension.

"It is a positive rule in Heraldry, that *Metal shall not appear upon Metal, nor Colour upon Colour*; that is, a Charge of one of the Metals must rest upon, or be in contact with a surface or another charge of one of the colours; and in like manner, a charge of one of the Colours must rest upon, or be in contact with a surface or object of one of the Metals. This rule, absolute in its primary application, admits of a partial relaxation in the case of varied surfaces, and of certain details of charges; and also in those compositions, in which a supported device or figure extends in the shield beyond the charge that supports it. The solitary early violation of this heraldic law is the armorial ensign of the Crusader Kings of Jerusalem, who bore five golden crosses upon a silver shield, that thus their Arms might be distinguished from those of every other potentate.

"When any charge is repeated in such considerable numbers, in the same composition, as to produce almost the appearance of a pattern, the Field so covered is said to be *Semée* with the Charge in question. It will be observed that a Field which is *Semée*, is often treated as if it were cut to the required size and shape from a larger extent of surface, some of the Charges being only partially represented. The ancient shield of France, nobly emblazoned in the north choir-aisle of Westminster abbey, in the work of Henry III., bears *azure, semée de lys, or*. When the often-repeated figure is of very small size, the term *Powdered* is substituted for *Semée*.

"In Heraldry, every 'Coat' or Shield-of-Arms, Crest and Badge is attached to the *Name*, and not to the *Title*, of the person who may bear them.

"All figures and devices represented in heraldic compositions have various attributes, qualities, and epithets assigned to them by Heraldry, which express their several positions and dispositions, and indicate the parts which they take in the aggroupment of the whole. Thus the sun is said to be *in its glory*, or *eclipsed*; the moon is said to be *increscant*, or *decrescant*; human figures are variously *habited*; animals are said to be *armed* with the horns, or the appendages provided for them

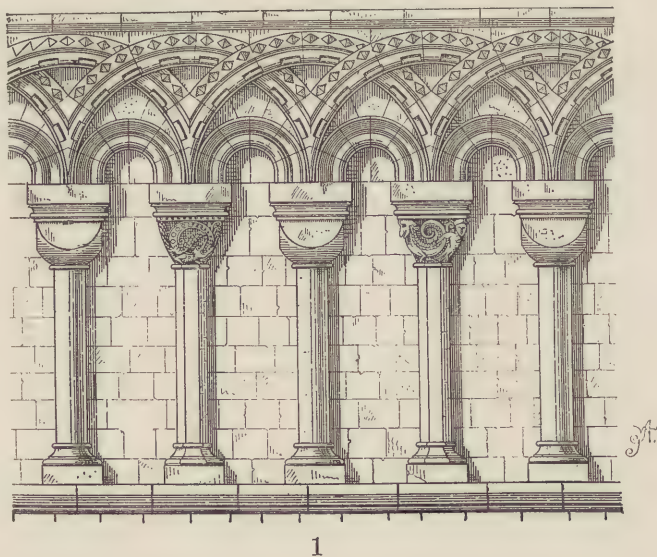
by nature for their defence or for aggressive purposes. Similar appropriate terms indicate the circumstances under which figures and objects of all kinds appear in heraldic compositions, together with their individual peculiarities, details and accessories."

Throughout the articles of this Dictionary, all the materials necessary for correct blazoning are described under their special terms, as well as under the more general terms, such as *Ordinaries*, *Shield*, *Tinctures*, &c.

BLENDING. The term used in painting to express the process by which two colours or pigments are gradually mixed or softened into one another by the light action of a brush, called the "*blender*" or "*softener*." The brush is usually formed of long fitch or badger hair, and requires to be applied with great care and skill, otherwise it invariably destroys all strength and clearness of touch. Blending should in all cases be most sparingly resorted to—never when it can be done without.

BLIND ARCADE OR WALL ARCADE. An arcade constructed against the surface of a wall, the arches and shafts of which are bonded with and form part of the wall, or are built slightly in advance of a portion of it, having the appearance of standing free. Both varieties are frequently found in mediæval buildings.

In the Romanesque buildings of France and the Rhine, and in Anglo-



Norman architecture, the attached variety is frequently found. In French work, blind arcades usually occupy the internal lower portion of the lateral or aisle walls, commonly resting on a bench table, which forms a continuous

seat. (See *Bench Table*.) Good examples of attached arcades of the eleventh century exist in the nave ailes of the cathedral of Le Mans (Sarthe); of the twelfth century, in the abbey church of Souvigny (Allier); and of the early part of the thirteenth century, in the abbey church of Vézelay (Yonne); and the cathedral of Séez (Orne).^{*} In Anglo-Norman architecture blind arcades are important ornamental features, chiefly on the exterior of buildings. They are most commonly of the interlaced form, that is, with interlacing arches, as in the beautiful example at Canterbury cathedral, Fig. 1, where both free and interlaced arches are combined; and also in St. John's church, Devizes; Castle Rising church, Norfolk; Norwich cathedral; Malmesbury abbey church; and in the interior of the round part of the Temple church, London. Examples of



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simple or uninterlaced arcades exist at Ely cathedral, St. Peter's church, Northampton, and numerous other interesting Norman buildings. The blind arcade does not appear so often in Norman buildings on the continent as it does in Anglo-Norman work; nor is it met with in so many richly ornamented forms.

There is no question that the most beautiful and artistically designed blind arcades ever introduced in mediæval buildings are those to be seen

^{*} Some of these examples are illustrated in *Dictionnaire Raisonné de l'Architecture Française*, article ARCADE.

in our more important structures of the Early English period, three of which we have selected for illustration. Fig. 2 is from the north transept of York cathedral; it is attached to the wall throughout. Fig. 3 is from a chapel in the south transept of Lincoln cathedral; it is formed of two orders of arcades, one against the wall, with its shafts only free, the other



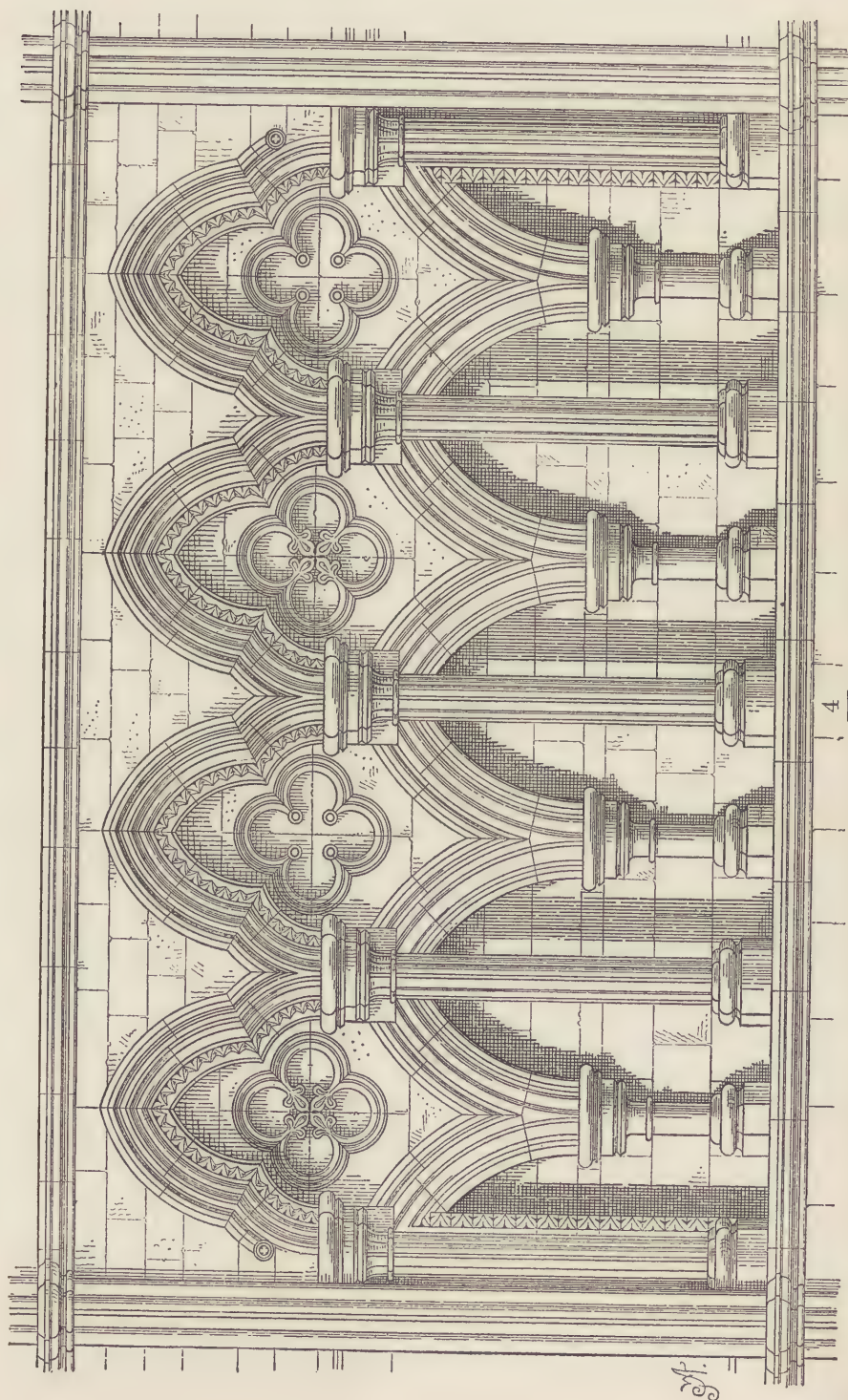
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in advance, with the lower portion of its cusped arches entirely detached and resting on disengaged shafts. Fig. 4 is a still more interesting and beautifully treated arcade, of a similar kind; it is from the south-east transept of the minster at Beverley. The last example is probably one of the most beautiful met with in English architecture. Fine examples of blind arcades are to be found on the lower portions of the walls, underneath the windows, in the chapter houses of Salisbury, Canterbury, Lincoln, and Wells cathedrals, and Westminster abbey.

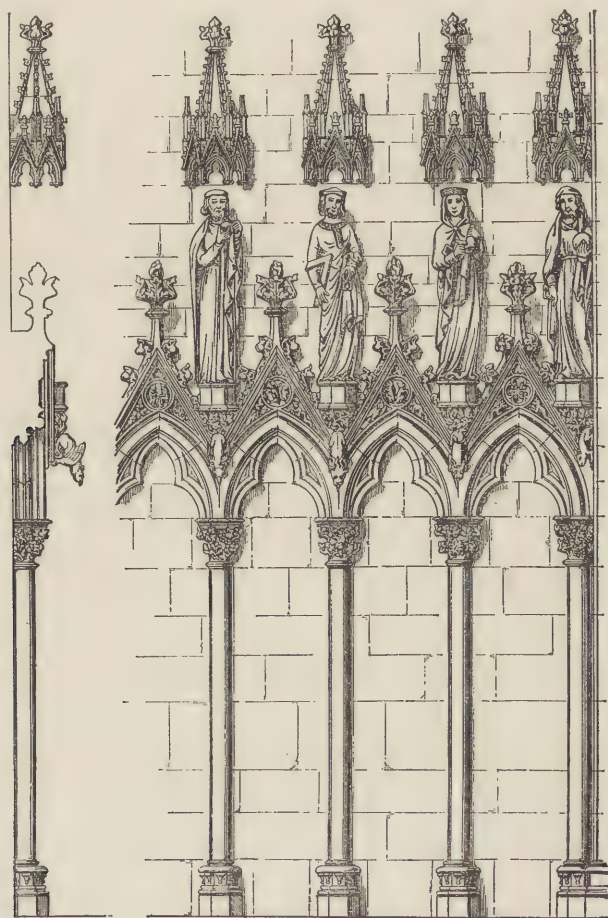
Sometimes blind arcades are elaborately treated and enriched with figure sculpture; fine examples exist in the interior of the Sainte-Chapelle, at Paris, and in the porch of the tower in the cathedral of Fribourg, in Bregau, Fig. 5.*

In the mediæval architecture of Italy blind arcades are frequently introduced. Probably the earliest example appears in the fragment of the palace built by Theodric, at Ravenna; here the shafts are carried upon a tabling supported by corbels placed under their bases.

* Reproduced from the engraving in King's *Study-Book of Mediæval Architecture and Art*.



The blind arcade assumes important proportions in certain later works, as in the lower part of the cathedral and baptistery at Pisa, and the church



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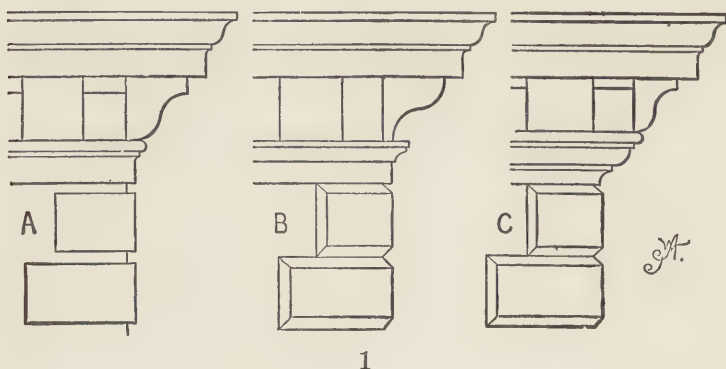
of St. Michele, at Lucca. In less important forms, it appears in the façade of the cathedral of Cremona, and in the upper stage of the baptistery of Parma.

BLIND-STORY. The term sometimes used in old writings for the triforium of a church, in contradistinction to the story over it, pierced with windows, and accordingly termed the *clear-story* or *clerestory*. The term is met with in Abbot Mill's *Lives of the Bishops of Dunkeld*:—"Fundavit navem ecclesiæ suæ Dunkeldensis die xxvii Apr. Anno dni MCCCXLVI. et construxit usque secundos arcus, vulgariter *le blyndstorys*."

The term might with propriety be used in speaking of a triforium which assumes the form of a blind arcade, as in the south-east transept of

Beverley minster, and in "Becket's crown," Canterbury cathedral. On the contrary, such triforia as those of the nave, choir, and presbytery of Ely cathedral could in no degree of correctness be termed blind-stories.

BLOCK ENTABLATURE. A form of entablature, used in Italian architecture, which comprises a bed-moulding, a range of plain square or shaped blocks, and a corona of the ordinary form. The accompanying illustrations are three forms given by Sir William Chambers; and his remarks on block entablatures in general, and these in particular, will prove interesting to the student of architecture:—"Block cornices and entablatures are frequently used to finish plain buildings, where none of



the regular orders have been employed. Of this kind there is a very beautiful one, composed by Vignola, much used in Italy, and employed by Sir Christopher Wren to finish the second order of St. Paul's. . . . There are three other block entablatures of a simpler make (Fig. 1); the second (B) of which Palladio has executed in a couple of houses; the one at Vivaro, and the other at Montecchio, villages of the Vicentine. The other two (A, C) are not very different from that: the measures of all of them are taken from Mr. Gibbs' rules, and may easily be collected from the designs. These entablatures need not exceed one-thirteenth of the whole height of the front, nor should they ever be much less than one-fifteenth."

BLOCKING COURSE. A plain course of stone, or a low construction of brick, placed on the top of a cornice, in Classic architecture. The face of the blocking is usually directly over that of the wall of the building, or the face of the frieze of the entablature.

BLOODSTONE. The name commonly given to a green jasper dotted with red spots; it is also called sanguineous jasper. (*Ital. Jaspro sanguineo.*) This stone is opaque in both its colours; in this respect it widely differs from the heliotrope, which is a translucent green chalcedony with red spots of opaque jasper. It appears, however, that the

“heliotropium” of Pliny is what we now understand by bloodstone. He describes it as a stone found in Ethiopia, Africa, and Cyprus, of a green colour streaked with veins of a blood-red. It was named from the Greek words *ἥλιος*, the sun, and *τρέπω*, to turn, because when placed in a vessel of water, and exposed to the sun’s rays, it changed them to a reflected colour like that of blood.

Bloodstone was held in high esteem by the Byzantine and the mediæval artists of the West, on account of the old tradition that it had its origin in the stones which lay at the foot of the Cross and received the drops of blood from the Saviour’s wounds.

The same reason recommended it to the artists of the Renaissance; and further, they found that, by an exercise of ingenuity, the red portions of the stone could be made to represent blood-dripping wounds in figures of Christ and Saints, in representations of the crucifixion and martyrdoms. In Vasari’s *Lives of the Painters, Sculptors, and Architects* we find the following passage relating to Matteo dal Nassaro:—“When Matteo had learned all his masters could teach him, it chanced that a beautiful piece of green jasper marked with red spots, as is the case with good specimens, fell into his hands, wherefore he executed a Deposition from the Cross thereon, with so much care that he made the wounds come exactly into those parts of the jasper which were spotted with blood-colours, thus bringing his work to a singular degree of perfection, and he received much commendation for the same accordingly. This jasper Matteo sold to the Marchioness Isabella of Este.”

In addition to the precious bloodstone above described, there was another kind of mineral designated by mediæval writers “*lapis sanguinarius*” or bloodstone. This was apparently a description of red hæmatite used both for the preparation of a red pigment suitable for painting in fresco and for a burnishing tool for metals. Thus Theophilus, in his *Diversarum Artium Schedula*, lib. i., cap. xxxi., says, alluding to gold laid in books:—“Postquam autem siccatum fuerit, polies illud dente vel lapide sanguinario diligenter limata, et polito super tabulam corneam æqualem ac lucidam”; which is thus translated by Hendrie:—“But after it has dried, polish it with a tooth or bloodstone carefully filed and polished, upon a smooth and shining horn tablet.”

BLUE. The third primary colour, and the only one of the triad which possesses the quality of *coldness*, as that term is understood in the language of art. Blue approaches shade or darkness in the same relative proportion as the first primary, yellow, approaches light. The admixture of blue with any other colour imparts a coldness or more retiring character to it: thus, combined with yellow, it produces the medium colour green, which is of a quiet refreshing appearance to the eye; and combined with red it produces purple, the coldest of the secondary colours. Blue is the archeus or foundation colour in neutral black. As Field justly observes:—“Blue is most powerful in a strong

light, and appears to become neutral and pale in a declining light, owing to its ruling affinity with black or shade, and its power of absorbing light: hence the eye of the artist is liable to be deceived when painting with blue in too low a light, or toward the close of day, to the endangering of the warmth and harmony of his picture . . . Blue is discordant in juxtaposition with green, and in a less degree so with purple, both which are cool colours, and therefore blue requires its contrast *orange*, in equal proportion, either of surface or intensity, to compensate or resolve its dissonances and correct its coldness: of all colours, except black, it contrasts white most powerfully. In all harmonious combinations of colours, whether of mixture or neighbourhood, blue is the natural, prime, or predominating power: accordingly blue is in colouring what the note C is in music,—the natural key, archeus or ruling tone, universally agreeable to the eye, when in due relation to the composition, and may be more frequently repeated therein, purely or unbroken, than either of the other primaries: this is, however, a matter of taste, as in music, and subject to artificial rules founded on the laws of chromatic combination."

In decorative art, the primary blue, of a perfectly pure or spectrum quality, is rarely introduced with good effect; like the other primaries, it is improved by the addition of certain modifying colours. Blue is invariably most agreeable in decorative painting when it inclines towards the green scale: when of a purple hue, such as in the pigment known as French or factitious ultramarine, it has a raw and crude effect which it is impossible to neutralise satisfactorily by any association with contrasting colours. Large surfaces of blue, especially when light, should be of a greenish tint. Light blues which incline towards the ultramarine character, or are prepared from that pigment and white, are of a displeasing grey character, lacking in transparency and force.

Blue pigments are chiefly of mineral origin, produced by chemical processes; the only one which may be said to exist in a natural state is the true ultramarine, prepared by a mechanical process from lapis lazuli, a natural silicate of alumina, soda, and lime with sulphur. Ultramarine is almost identical in colour with the blue of the prismatic spectrum. The only vegetable blue pigment is indigo, a colour more important in dying than in painting.

Although blue is not now one of the canonical colours, it appears to have been frequently adopted for ecclesiastical vestments during the middle ages: repeated mention is made of blue copes and chasubles in old inventories. Blue vestments are still used in some parts of Italy and Spain on the festivals of the Virgin.

In mediæval art, blue was invariably used with symbolical significance. As the sky is of a blue colour, it is natural that blue, first of all, should be accepted as symbolical of heaven; and, by extension of the idea, of divine eternity and human immortality. It was also accepted as the emblem of piety, sincerity, godliness, modesty, faith, and divine con-

templation. With all these significations combined, it has universally been adopted for the robe of the Virgin Mary. As symbolical of heaven, it was commonly used for the decoration of vaults and ceilings, powdered with gold stars. As the emblem of immortality of the soul, and probably also of purity, it was sometimes adopted for the palls placed over the coffins of young persons. Illustrations of this usage are to be seen in the miniatures of the Salisbury Breviary.

Randle Holme, in his *Academy of Armoury*, says that blue "signifies piety and sincerity." Sylvanus Morgan, in his *Sphere of Gentry*, says:—"Blue signifieth divine contemplation. In moral virtues, it signifieth godliness of conversation, and is of the colour of the air, attributed to celestial persons, whose contemplations have been about divine things, which was the cause it was so mainly used about the garments of the high priests under the Jewish dispensation."

Field remarks on this subject:—"The moral expression, or effects of blue, or its influence on the feelings and passions, partake of its cold and shadowy relations in soothing and inclining to melancholy, and its allied sentiments: accordingly it is rather a sedate than a gay colour, even when in its utmost brilliancy. In nature it is the colour of heaven and of the eye, and thence emblematical of intelligence and divinity. It is accordingly, by a natural analogy, used in mythological representations to distinguish the mantle of Minerva, the blue-eyed goddess, and the veil of Juno, the goddess of air; while Diana, or the Moon, is robed in blue and white, as the Isis of the Egyptians and her priests were in pure azure; and Poetry herself is personified in a vesture of celestial blue."

In heraldry, the blue tincture is commonly called *azure*, and also, though very rarely, *Inde*, because the sapphire comes from India or Ceylon. By those heralds who blazon by precious stones, it is designated *sapphire*; while by those who blazon by planets, it is called *Jupiter*.

BLUE BLACK. A pigment prepared from a well-burnt and levigated charcoal. It is a permanent colour, and, as its name implies, has a cold blue or neutral tint. The true blue black, as above described, is now little used in water-colour painting. A charcoal black of this name, prepared from the resinous parts of the fir tree, in the north of Europe, is commonly used by house painters and others; its cheapness is its only recommendation.

BLUE CARMINE. The name given to a pigment prepared from an oxide of molybdenum. It is of a rich blue colour, durable in strong light, but liable to change when mixed with other pigments and in air charged with sulphuretted hydrogen. It is little used, chiefly on account of its want of permanency.

BLUE OCHRE. A valuable pigment of a quiet or sober blue colour. It is a native subphosphate of iron, found in Cornwall and in

North America. Like all the ochres, this pigment has considerable body, works well both in water and oil, and dries readily. It is perfectly permanent under all ordinary circumstances; and combines satisfactorily with white lead or other pigments. As it is a highly eligible pigment for mural painting, it is much to be regretted that it is found only in small quantities. It has been incorrectly called *Native Prussian blue*.

BLUE VERDITER. A pigment prepared by dissolving perfectly pure copper in nitric acid, and precipitating the oxide by the addition of caustic lime; after filtration, the addition of more lime to the oxide produces the blue colour. It is not a durable colour in oil, nor trustworthy in water; its tendency is to turn green and afterwards blacken. When boiled, blue verditer turns green, producing the pigment known as green verditer or green bice.

BOAR. In mediæval Christian art, the boar is the common emblem of gluttony, sensuality, and uncleanness; but it is questionable if it was always introduced in art works with this significance. (See *Anthony, St.*)

The boar or hog is the attribute of St. Anthony, A.B., and St. Emilion, C.; and a boar's head is an attribute of St. Blasius, B.M.

BOAT. In Christian art, a boat is the attribute of St. Jude, A.; he is represented carrying it in his hand, in several ancient roodscreen paintings in England. St. Mary Magdalene has been represented carrying a boat, doubtless with reference to her legend, which tells us that she and others were put by Pagans into an open boat, without sails, oars, or rudder, and cast adrift. The boat conveyed them to Marseilles.

BODIUM. A late Latin term for a crypt, or a subterranean chapel. Thus, in Charpentier's *Glossarium Novum*, we find:—"BODIUM, Crypta, sacellum subterraneum . . . Charta an. 1218. in Chartul. sign. *Decanus eccl. S. Petri Insul. ch. 57. Duos instituimus capellanos, qui in Bodio ecclesiæ missam celebrent summo mane.*"

BODY BOTERASSE OR BODY BUTTRESS. A term which occurs in the *Itinerarium* of William of Worcester, relating to the porch of the church of St. Mary Redcliff. It is there applied to a buttress which is placed against a "cors" or "body."*

BODY COLOUR. The term commonly used in art to designate the class of water-colour painting in which the pigments are laid on thickly, either alone or mixed with a zinc white (*Chinese white*), to distinguish it from the original and true water-colour painting, in which the colours are laid on in tints or washes, more or less transparent in their nature.

* *Architectural Nomenclature of the Middle Ages*, by Professor Willis, p. 73.

The term *body* is applied to pigments generally, to express their covering power when laid on in thin coats. Any pigment which can be ground to great fineness in water or oil, and when laid on a surface, as thinly as possible, entirely covers or hides that surface, is described as having *good body*. The term is also used to describe such pigments as have powerful staining or tinging properties when mixed with white or other colours.

BOERIA. The late Latin term of a manor house or important dwelling situated in the country. Thus, in Charpentier's *Glossarium Novum*, we find:—"Ch. an. 1299. in Lib. rub. ejusd. Cam. fol. 110. vo. *Item Boeria, quæ est in dicta parrochia, cum terris vineæ et viridarii, et aliis terris eidem Boeriæ spectantibus.*" and "Lit. an. 1361. ex Bibl. reg. *Quodd cum habeat quandam Boeriam sive mansum.*"

BOLDNESS. The definition of this term, as used in art, is so clearly and tersely given by Elmes, in his *Dictionary of the Fine Arts*, that we prefer quoting it here to any words of our own. He says:—"In art the epithet means fearless, firm, strongly constructed, and characterises the artist who, certain of his aim, and grounded in the soundest principles of his art, builds, designs, paints, or sculptures with intrepidity and dauntless courage. Such was Michel Angelo in all his works, particularly in his sculpture, at which he worked as if inspired, and was only knocking off the incumbering marble which concealed his figure. Such were also the unknown architects of our Gothic cathedrals, and such were most of the painters of the Italian and Roman schools. Boldness in art, if tempered by knowledge, gives a vigour to all its productions that is sure to charm. Its opposite is tameness or insipidity."

BOLSTER. The term sometimes applied to the portion which connects the volutes on the side of an Ionic capital. This feature is called *pulvinata* by Vitruvius, from its resemblance to a pillow. Some modern writers use the term *baluster* for this part of the capital, because in certain examples, as in the order of the temple of Marcellus, at Rome, it presents the appearance of an enriched baluster, laid horizontally.

BOLSTER WORK. The term used by architects to designate features which are bellied or curved outwards, like the sides of a bolster or cushion. Bolster work appears in the friezes of certain examples of the Ionic, Corinthian, and Composite orders. "The frieze when so formed," says Sir William Chambers, "conveys the idea of a piece of timber, used without being hewn; as was the practice of ruder times among the Greeks, and cannot with propriety be introduced in a finished work."

Palladio showed a great partiality to this bellied form of frieze; and speaking of its adoption by him, Sir William Chambers makes a few pertinent remarks:—"In the antique, there are a few examples of these

swelled friezes. Palladio probably took his hint from the temple of Bacchus, near Rome, where the swelled frieze has been used in a Composite order: or perhaps, from the basilica of Antoninus, where it has been employed in a Corinthian: with little success at the last, and with much less at the first of these places; for as the columns are there insulated, and the profile is marked at the four angles, the deformity becomes so much the more conspicuous; and notwithstanding Palladio's partiality to this form of frieze, which so frequently recurs in most of his works; it seldom or never can be introduced with success."

The term *bolster work* is also applied to a rusticated wall when each course of stone is swelled or bellied like the friezes above alluded to.

BOMBYLIOS. An ancient vase for holding perfumes, of the form of the accompanying illustration. It was of small dimensions, and appears to have derived its name from the peculiar gurgling sound which the liquid made in flowing from the mouth. It was furnished with a small handle for a strap or cord. Vases of this kind which have been found are usually of the early Greek style, ornamented with brown-red figures on a buff ground.



BOND. A term used in architectural and building nomenclature, to express the mode in which stones or bricks are laid, with their vertical joints so disposed that each stone or brick holds the ends of those placed immediately below and above it. (See *Brickwork* and *Masonry*.)

BONE BLACK. A pigment prepared from bone charred to blackness by a strong heat, in vessels perfectly closed from contact with the air. The degree of burning to which the bone is subjected materially affects the quality of the pigment; when well burnt, but without being subjected to an intense heat for a long time, the colour produced is a fine neutral black, perfectly durable and useful both in water and oil; when lightly burnt, the colour is a brown-black, and when over burnt it is weak and unsatisfactory.

The finest kind of pigment of this description is that prepared, by a similar process, from ivory. This is called *ivory black*, and is in all respects an eligible material in water and oil.

BONE HOUSE. A small building, connected with a mediæval churchyard or cemetery, in which the bones turned up from the old graves were preserved. Such buildings, *Ossuaires*,* still exist on the continent.

* "OSSUAIRE, *s. m.*—Bâtiment dépendant d'un cimetière et situé dans son voisinage, dans lequel on déposait les ossements provenant des fouilles pratiquées dans d'anciennes tombes situées dans les églises ou les cimetières. Les ossuaires affectent deux dispositions principales.

M. Viollet-le-Duc gives illustrations of two, one at Fleurance (Gers.), and the other at Faouët (Finistère); both are Gothic buildings.

BOOK. In Christian art, a book is commonly and almost invariably used to symbolise intelligence, learning, study, and science. It is an attribute carried by the Holy Ghost, when figured as a man, and by the evangelists, apostles, fathers of the Church, bishops, and abbots. In the hands of the Holy Ghost it usually assumes the traditional form of the tables of the Law, and is displayed open; it is in this case the emblem of divine intelligence, the attribute of the Holy Spirit.

When the book is borne by human beings it assumes two forms, that of the folded and bound book, as used at the present time, and that of a roll or *volumen*. The middle age artists did not use these forms indifferently; they attributed distinct expressions to them, and employed them accordingly. The roll signifies imperfect knowledge, whilst the open book expresses full or complete knowledge. Durandus, in his *Rationale Divinorum Officiorum*, clearly substantiates this. He says:—"Observe that the patriarchs and the prophets are painted carrying rolls in their hands. Certain of the apostles have books and others have rolls; because before the advent of Christ, the faith was set forth under figures, and many things were not yet made clear; to set forth this, the patriarchs and prophets were painted with rolls (*rotulis*), by which imperfect knowledge is expressed. But because the apostles were taught by Christ, therefore they carry open books, by which perfect knowledge is expressed. Those who committed their knowledge to writing, for the instruction of others, are properly represented with books, as the evangelists, and Paul, Peter, James, and Jude. But others, who wrote nothing which has obtained the sanction of the Church, are depicted with rolls, simply as preachers of the Word." *

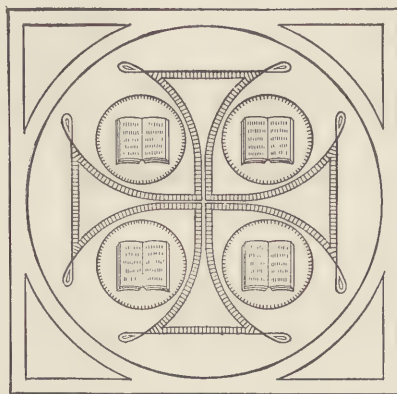
By an extension of the symbolism, we find open books, from being the attributes of the evangelists and carried by them, become, when used alone under certain circumstances, the symbols of the Gospels and the emblems of the evangelists. This is clearly shown in the following illustration, Fig. 1, from an early fresco in the catacombs at Rome. The cross in the centre symbolises our Lord, while the four open books, placed in circular aureoles, within its spreading and protecting arms, are evidently emblems of the four evangelists.

A book, bearing certain objects upon it, is the attribute of several saints; with the Holy Lamb upon it, it is the attribute of St. John the Baptist; open, and bearing the figure of the Infant Jesus, it is the attribute of

Ce sont ordinairement des galeries analogues à des cloîtres qui occupent une partie des cimetières ou des *campi-santi*. Quand les cimetières sont placés auprès d'une église, les ossuaires sont en communication avec elle. Une seconde disposition des ossuaires, disposition qu'on voit en Bretagne, consiste en un bâtiment isolé affectant le genre d'une chapelle. Au moyen âge tous les cimetières possédaient un ossuaire de ce genre."—E. Bosc., *Dict. Rais. d'Arch.*

* (*Rat. Div. Off.*, lib. 1, cap. 3.)

St. Anthony of Padua, C.; with a stag carrying a crucifix between its horns, of St. Hubert, B.C.; with a scull on it, the attribute of St. Mary Magdalen; and with a wine-cup upon it, of St. Urban, P.M. A book



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pierced with a sword is the attribute of St. Boniface, B.M. Three books are carried by St. Hilary of Poitiers, B.C. St. Catherine of Siena, V., St. Thomas Aquinas, C.D., and many other personages, carrying the book as the emblem of learning.

BORDER. In decorative and ornamental art, that which surrounds or encloses anything. A border is generally understood to be ornamental in its character, and designed so as to enhance the artistic value of that which it encloses.

In mural painting, borders commonly surround figure subjects, and artistically separate them from the rest of the wall surfaces. In their simplest form they consist of parallel lines of colour: in their richer varieties they comprise geometrical patterns, repeated closely together or at regular intervals; or consist of flowing scrollwork and conventional floral designs.

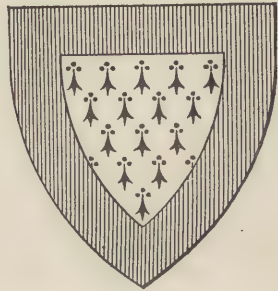
In architecture, the term border is not often used: it may, however, be employed in certain cases to describe the flat or raised ornamentation which surrounds panels in Renaissance work; it may also be correctly applied to the ornamental portion of a floor of parquetry carried round against the walls and mitred at the angles.*

In heraldry, a border, or, as it is more commonly written, *bordure*, sur-

* "BORDER (Fr. *bande*). The plain or ornamental face forming the decorative or structural enclosure of a piece of work, as an opening, a panel, an inlaid floor, or a ceiling: thus the plain, molded, or banded brickwork, flush with the piers, round a window or doorway, and the slips of wood which are fixed or framed together round the front slab of the hearth of a fireplace, are termed borders; and these are the most technical uses of the word in building."

—*Dict. of Arch.*, Arch. Pub. Soc., Lond.

rounds the shield, of which it is the one-fifth part in width, as in the accompanying figure, the arms of Hundescote. (Example—*Ermine*, a *bordure*, *gules*.)



In mediæval heraldry the bordure was borne as a difference, or mark of cadency; it is now frequently borne as a charge. Charged bordures, especially in mediæval heraldry, often alluded to maternal descent, and sometimes they were augmentations. "When a coat having a bordure is impaled with another coat, the bordure must be omitted where they join. If it be charged with eight bezants (for example), only three whole ones will be seen, and two halves. Quartered coats retain their bordures entire. The bordure is placed over all ordinaries, except the chief, the quarter, and the canton, which invariably surmount it. The bordure has no diminutive, but it is said that one may be surmounted by another of half its width. When a bordure is bezantée, billetée, or the like, the number of bezants or billets is always eight, unless some other number is particularised. Bordures charged with *bends* or other ordinaries show only those portions of the charges which would have fallen upon the bordure if it had composed a part of a field so charged. BORDURE ENALURON: charged with eight birds of any kind. BORDURE ENURNEY: charged with eight beasts. BORDURE VERDOY: charged with eight leaves or flowers. BORDURE ENTOYER or ENTIER: charged with eight figures of any kind, except animals or plants. BORDURE OF ENGLAND: *gules*, charged with eight lions of England; some would say *enurney* of lions, or charged with an *enurney* of lions. BORDURE OF SCOTLAND: the double tressure flory counter flory, *gules*, or more properly a bordure or, charged with such a tressure. BORDURE OF FRANCE: *azure*, charged with eight fleurs-de-lis or."*

BOREAS. In mythology, the God of the North Wind. He was called the *Clear weather-* or *Frost-producer*. He is represented in the sculptures of the octagonal tower of Andronicus Cyrrhestes, or "Tower of the Winds," at Athens, as an elderly but robust man, with flowing hair and curly beard, clad in warm garments which leave only portions of the legs exposed, and wearing buskins on his feet. In his right hand he carries a large conch-

* *Gloss. of Terms used in British Heraldry.* Oxford, 1847.

shell as if about to sound it; his left hand holds his flowing outer garment. The figure is winged, and represented full of vigor and action.

The following description is given in Stuart and Revett's *Antiquities of Athens* :—

"BOREAS, The North Wind; is cold, fierce, and stormy. At Athens, from the situation perhaps of some rocks and grottos, it makes a loud, hollow Noise, greatly resembling the sound of a Conch-shell when you blow through it; the Sculptor was probably induced, from such resemblance of sound, to place a Conch-shell in the hand of this Figure. He is represented as an old Man looking full on the Spectator, and is more warmly clothed than any other of these Figures except *Skiron*; for over the Tunic or close Garment which descends to his knees, he has a short Jacket with sleeves that cover his Arms quite down to the Wrist. His under Tunic is perhaps the *Exomis*, as that with the sleeves to it may be the *Cheirodota*, and his cloak or mantle, the *Chlamys* of the Ancients."

Boreas appears to have been held in great veneration, and several temples were erected to his honour in Greece. Bell tells us:—"When Xerxes crossed the Hellespont with the design of ravaging Greece, the Athenians were commanded to call in Boreas to their aid, who shattered the Persian fleet to such a degree, that the best part of it was lost or disabled. For this service they built him a temple on the banks of the river Ilissus, swore by his divinity, and celebrated his festivals with singular solemnity.

"The Megalapolitans dedicated a temple to Boreas, and annually sacrificed to him, in acknowledgment of his assistance when Agis, king of Sparta, besieged their city."

BOSS. In architecture, an ornament used originally for the purpose of concealing or artistically relieving the intersections of the ribs of a groined vault or flat timber ceiling. Later on it became a favourite enrichment for intersecting mouldings in any situation, vertical, horizontal, inclined, or curved. The boss, as it was used in vaults, was invariably sculptured on a large stone, which served as the key to the converging ribs; and in old writings it was indifferently termed a boss or boce, key, and knot. Professor Willis quotes several instances of the employment of these terms, which we here give :—

"Gervase, describing the progress of the works at Canterbury, relates how certain compartments or 'ciboria' of the vaults were completed. These, putting a part for the whole, he calls *claves*, and explains, '*clavem pro toto pono ciborio, eo quod clavis in medio posita partes undecumque venientes claudere et confirmare videtur.*'—Gervase, 1298. 33.

"'The principal *keys* of the said vault, shall be wrought more pendaunt and hollower than the keys of the body of the chapel, and all the other lesser keys to be wrought more pendant and hollower than the keys in the body of the said chapel.'—Indenture for the Roof of St. George's Chapel, Windsor, 5 June, 1505.

"'Et ferront les dits kervers un arche d'alabastre amounte tout la dite tombe en longure et largure avec pendants et *knottes.*'—Indenture for tomb of Ralph Greene.

"'The riche Cardinal of Winchester gildid al the Floures and *Knottes* in the Voulte of the Chirch.'—Leland, Itin. i. 18.

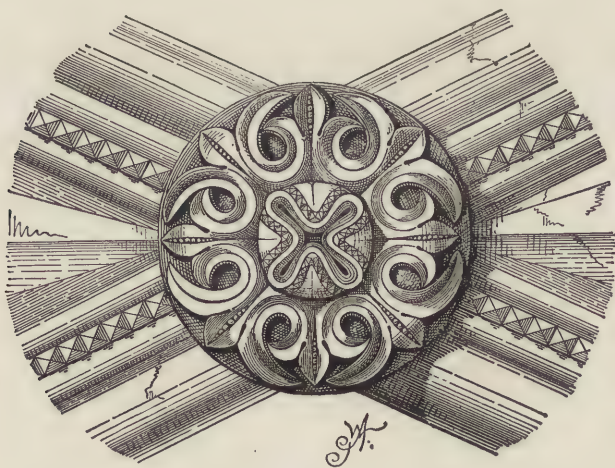
“ ‘Carpenters carving the *bosses* of the upper chapel.’—St. Stephen’s Chapel, 21 E. III.

“ ‘Solut.’ Magistro Will^o Schank pro dicta volta depigenda cum le chapitres et *boces* deaurandis ex conventionie in grosso. 10 l.’—Ely Sacrist Roll. 10 E. III.

“ ‘Solut.’ uno tornatore pro *boces* ad voltam superioris istoriæ tornando, 5s. 9d. . . ‘Solut. Johanni de Burwell pro j imagine talhando super le principe *keye* voltae superioris.’ . . ‘Salut. Johanni Rok pro j *clave* talhando ad voltam superiorem.’—Ely Sacrist Roll, 13 E. III.”

In Anglo-Norman, as in all the Romanesque styles, the boss seldom appears; and it never assumes, even in the latest examples, a great prominence or degree of elaboration. It is really with the pointed arch and vault that the boss makes its entry as an important and properly accentuated feature. As Viollet-le-Duc says:—“ Les architectes du ^{xiii}^e siècle, ayant inventé la voûte en arcs d’ogive, cherchèrent bientôt à placer un des plus beaux motifs de décoration intérieure à la rencontre des deux arcs croisés qui portent la voûte d’arête gothique. La rencontre de ces deux arcs saillants exige, au point de vue de la construction, une clef, c’est-à-dire un seul morceau de pierre venant fermer, par des coupes normales aux courbes, la rencontre des deux arcs. S’il y eut quelques tâtonnements quant à la manière de joindre ces arcs, ils ne furent pas de longue durée; car dès que nous voyons les arcs ogives adoptés, apparaissent les clefs sculptées.”

The earliest bosses were usually in the form of rosettes or simple geometrical devices, and seldom extended beyond the ribs. Twelfth century



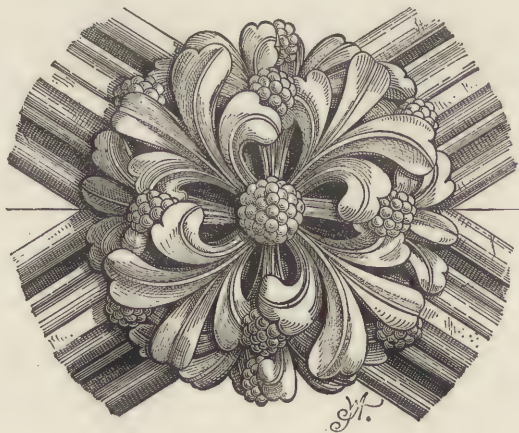
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examples of such simple forms exist at the church of Sainte-Madeleine, Chateaudun (Eure-et-Loire); the cathedral of Senlis (Oise); the cathedral of Notre-Dame, Paris; and the church of Saint-Georges, Boscherville (Seine-inférieure). One from the last-named building is given in Fig. 1,

from the entrance to the chapter house. A fine example of a Norman boss, of a square shape, and sculptured with a coiled animal, leaves, and grotesque heads, exists in Iffley church, Oxfordshire.* In Continental examples, of about the end of the twelfth century, bosses appear more pronounced, sometimes sculptured with figures of angels, as at the cathedral of Laon. In the same building are fine bosses of foliage. Viollet-le-Duc remarks :—
 “Dès la fin du ^{xiii}^e siècle, les clefs des voûtes absidales ou des chapelles ne représentent pas seulement, sculptées sur leur face intérieure, des personnages sacrés, tels que le Christ bénissant, le Christ entouré d’anges, la Vierge, l’Agneau, les signes des évangélistes, comme dans la chapelle terminale de la grand’salle de l’Hôtel-Dieu de Chartres ; des saints, des martyrs ; mais aussi parfois des évêques ou abbés fondateurs, des sujets, comme, par exemple, les signes du zodiaque, des animaux tirés des bestiaires, etc. Dans la voûte de la chapelle absidale de l’église abbatiale de Vézelay, dont la construction remonte aux dernières années du ^{xiii}^e siècle, on voit une fort belle clef sculptée représentant le signe du Verseau sous la forme d’un jeune homme à peine vêtu, tenant un long vase d’où s’échappe de l’eau, et entouré d’enroulements.”

About the same period in English architecture, or in what is called the Transition or Semi-Norman period, bosses began to assume a rich and important character, as in the fine examples to be seen in Trinity chapel, Canterbury cathedral. Drawings of these are given in Colling’s *Examples of English Mediæval Foliage*.

In the Early English period, bosses became more frequently used, although not in the same profusion as in the succeeding periods. Even in

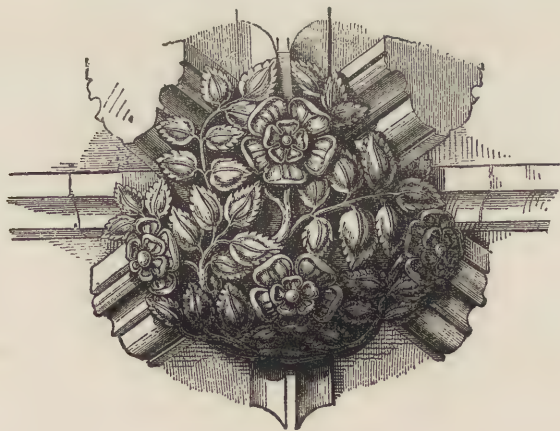


works of great elaboration the ribs of the vaults sometimes intersect without bosses, as in the beautiful Galilee porch at Ely Cathedral. Early

* Illustrated in the *Glossary*, pl. 35. (5th edition.)

English bosses are generally in the form of gracefully arranged masses of the conventional foliage peculiar to the style, sculptured with great spirit, sometimes with a radiating and in other instances with a spiral treatment. A beautiful example of the latter exists in Warmington church, Northamptonshire.* Fig. 2 is an illustration of the radiating treatment, from the vaulting of the passage to the chapter-house, Westminster abbey. Figures and animals sometimes appear along with foliage in Early English bosses. An example containing figures of the Virgin and Child, surrounded with gracefully disposed foliage, occurs in the chapter-house, Oxford cathedral.

In French architecture of the thirteenth century the general treatment of the boss differs but very slightly from that which obtains in our Early English style; the foliage of course is different in design, and by no means so graceful in its lines as the English type. Beautiful examples, of early thirteenth century date, are to be found in the cathedral of Laon; these more closely resemble English foliage than later examples. M. Viollet-le-Duc gives an illustration of a very charming boss in the church of Notre-Dame, Semur en Auxois† (Côte-d'or). It represents the Coronation of the Virgin; in the centre are seated figures of Christ and St. Mary; above them is an angel in the act of placing the crown on the Virgin's head; on each side is an angel holding a lighted candle; the whole is surrounded with foliage. Towards the end of the century bosses were frequently ornamented with heraldic shields and other devices. They were sometimes altogether omitted by French builders; an instance of this is supplied by the vault of the hospital at Ourscamps (Oise).



3

In the Decorated period of English architecture bosses appear in the greatest profusion; the numerous intersecting ribs used in the vaulting of

* Illustrated in the *Glossary*, pl. 35 (5th edition).

† *Dict. Rais. de l'Arch. Française*, vol. iii., p. 267.

the style encouraging their lavish introduction. It would be quite impossible to give any idea of the countless varieties of design these bosses present; but, like those of the preceding period, they usually comprise foliage, figures, and animal forms: heads of kings, bishops, and other personages frequently look out from a surrounding of tastefully disposed foliage, as in certain examples in the Latin chapel at Oxford cathedral. Fig. 3 is a beautiful boss, in the same chapel, displaying in a most perfect manner the general treatment of the foliage designs of the period. The varieties of foliage most commonly used are those of the oak, vine, hawthorn, and rose. They are generally well executed and boldly undercut. In works of small scale the bosses are usually in the form of two, three, or four leaves, springing from one stem, and disposed so as to cover the junctions of the rib mouldings.

Perpendicular bosses differ from the Decorated chiefly in the character of their foliage; and their execution is by no means so good. Heads without any surroundings appear in some works, as in St. Michael's chapel, Canterbury cathedral. Heraldic shields and devices are favourite enrichments: thus the great bosses of the vault of King's College chapel, Cambridge, display the rose and portcullis, the badges of Henry VII. Perhaps the most characteristic bosses of this period are those met with in timber ceilings; they are frequently carved from one or more flat pieces



of oak, and fastened at the junction of the ribs. Fig. 4 is a beautiful specimen of one, formed in three layers of wood.* Bosses formed so as to throw their leaves into the angles of the intersecting ribs, in the fashion of those in stone, are also met with, as in the elaborate roof over Trinity

* From a boss in private possession, illustrated in Pugin's *Gothic Ornaments*; London, 1854.

chapel, Cirencester church, Gloucestershire, and the ceiling of St. Mary's church, Bury St. Edmunds, Suffolk.

During the fourteenth and fifteenth centuries the boss, in its normal form, did not assume any new development in French architecture: it retained the general appearance of that usual in the thirteenth century, but the sculpture became more minute, and less effective and spirited. Ornaments taking the place of the boss proper, sometimes in the form of pendants and at others of sculptured discs or slabs suspended by rods to the keys of the vaults, are common in the fifteenth century. M. Viollet-le-Duc gives illustrations of both these treatments, from the choir and choir aisle vaults of the church of Eu (Seine-Inférieure).*

The term *boss* has been used by certain writers for the ornaments which terminate hood-mouldings, or cover the junctions of raking mouldings in canopy-work. These, in some instances, appear to deserve the name, being in all essentials similar in design and form to the bosses of vaults. But, for the sake of clearness and simplicity in architectural nomenclature, it is advisable to avoid using the term save in speaking of the latter.

In armour the term *boss* is used to designate the raised central portion of the circular shield or buckler. Demmin says:—"The most ancient shields of the nations of the Germanic race (Franks, Saxons, Alemanni, and Burgundians) were large, square-shaped, and made sometimes of wood, but more often of osier branches covered with bronze plates. During the iron age the bucklers were circular, and usually with a *boss* in the centre, called in French *ombilic d'umbo*, in German *schildnahel* or *schildbuckel*." The old German word *buckel*, from which the word buckler is derived, signifies boss. The boss of the shield had a handle across it on the inside; by this the shield was held.

BOSSAGE. (*Fr.*) A stone left projecting from the face of a wall, and intended to be sculptured. Also rustic work, formed of projecting stones, divided by channels or indentations.†

BOTONNÉE. In heraldry, the term applied to the cross, when its arms terminate in trefoils. (See *Cross*, *Heraldry of the*.)

BOUDOIR. (*Fr.*) The apartment in a large dwelling-house or mansion set apart for the exclusive use of the wife or chief lady resident in the establishment. It is not generally of large dimensions, but is decorated and furnished with elegance, in accordance with the tastes of its

* *Dict. Rais. de l'Arch. Française*, vol. iii., pp. 272-276.

† "BOSSAGE, *s. m.*—Saillie brute ou façonnée, pratiquée sur la surface plane des murs, des arcades et même des colonnes. L'usage des bossages bruts a dû exister dans les temps les plus reculés; mais un des plus anciens exemples qui soit parvenu jusqu'à nous existe sur le mur d'enceinte du temple de Jupiter Olympien, dont la fondation date de Pisistrate."—E. Bosc. *Dict. Rais. d'Arch.*

occupant; accordingly it assumes the nature of a private reception room, a study, or a cabinet of works of art. It should have a cheerful aspect, but not have too glaring a light admitted to it. Its position varies, but probably the most convenient and favourite locality is one adjoining the lady's dressing-room.*

BOULTIN. According to Sir William Chambers, "the name given to the moulding called the egg or quarter round." It is used by writers of the early part of the eighteenth century in speaking of the mouldings of the Doric, Ionic, and Corinthian cornices, and of the Tuscan, Doric, and Ionic capitals; in all cases it appears to apply to the ovolo.

BOURDONNÉE OR POMMÉE. In heraldry, the term applied to the cross when its arms terminate in round knobs. (See *Cross, Heraldry of the.*)

BOVA. The late Latin term for a wine vault or cellar.†

BOW. An old term for an arch, and one frequently applied to an arched gateway. The gates of Edinburgh were called bows, and one of the gates of Lincoln is still known as the "Stone Bow." The term was also applied to the arch of a bridge—"The falline downe of the three *bowis* of the brig of Tay." (Jamieson, *Etym. Dict.*) As Britton says:—"We recognise the ancient use of this term in Bow-bridge, Essex; Bow-bridge, Leicester; the church of St. Mary le Bow, London, &c." Flying buttresses were sometimes called bows—"From the Aisles are *Bows* or flying But-tresses to the walls of the Navis." (Salisbury Report, 1669, in *Parentalia* 304.)

Of offensive arms the bow is probably one of the most ancient known. It was both a weapon of war and of the chase among the Egyptians. "The Egyptian bow was not unlike that used in later times by European archers. The string was either fixed upon a projecting piece of horn, or inserted into a groove or notch in the wood, at either extremity. The Ethiopians and Libyans, who were famed for their skill in archery, adopted the same method of fastening the string as the Egyptians, and their bow was similar in form and size to that of their neighbours: and so

* "Boudoir, *s. m.*—Petit réduit, petit salon décoré avec beaucoup d'élégance, situé près de la chambre à coucher et du cabinet de toilette d'une femme. Le boudoir est la pièce dans laquelle se retire la maîtresse du logis quand elle ne veut pas recevoir. La décoration du boudoir doit être luxueuse, le jour ne doit y parvenir qu'à travers des vitraux ou des verres gravés; quant à l'ameublement, il doit être de peu d'importance, mais très-confortable et d'une grande richesse. Le boudoir est une invention du XVIII^e siècle."—E. Bosc. *Dict. Rais. d'Arch.*

† "Bova, Cella vinaria, Gall. *Cave*; nostris olim *Bove*, locus omnis depressus, cavus, subterraneus. Hispan. etiam *Boveda*. Lit. remiss. an. 1368, in Reg. 99 Chartoph. reg. ch. 355. *Johannes de Leval caveam seu Bovam religiosorum abbatis et conventus monasterii Fomaci adivit; . . . et cepit, causa potus tres caudas vini.*"—Carpentier. *Glossarium Novum.*

noted were the latter for their dexterity in its use, that their name is accompanied in the hieroglyphics by a representation of this weapon. The Egyptian bow was a round piece of wood, from five to five feet and a half in length, either almost straight and tapering to a point at both ends, some of which are represented in the sculptures and have even been found at Thebes, or curving inwards in the middle, when unstrung, as in the paintings of the tombs of the kings."*

The ancient Scythians, Parthians, Cretans, and Thracians were celebrated archers. The Scythian and Parthian bow was much curved or crescent shaped. The Greek bow had a double curvature, as if it was formed of two portions joined together at the handle in the centre; indeed, according to the description in Homer (*Il.* iv. 105.), it was formed of two pieces of horn. The string was of twisted thongs of hide. The bow does not appear to have been a favourite weapon with the Romans; on imperial monuments it appears in the hands of those soldiers of the Roman army who, by their dress, are distinguished as auxiliaries. The form greatly resembles the Grecian, and was probably constructed in a similar manner, the arrows being also similar to those of the Greeks, headed with bronze. Three-edged arrow-heads have often been found in Roman ruins.

That the bow was known to the ancient Britons is proved by the numerous flint and bronze arrow-heads which have been found. In their hands it was in all probability used more as a weapon of the chase than of war. From the drawings in Anglo-Saxon manuscripts and the Bayeux Tapestry we learn that the Saxons used the bow. In certain drawings we find the bow of the Roman form (MS., Harleian, 503, and MS., Tiberius, C. vi.); but in the Bayeux Tapestry the shape is different. The Danes and Northmen held skill in the use of the bow as an indispensable qualification of their warriors.

In England, however, from the twelfth century until some time after the invention of firearms, the bow assumed an importance as a weapon of war which it had never before attained. The form, in its full development, was that known as the long-bow—a piece of yew, ash, elm, or witch-hazel, about six feet in length, almost straight when unstrung, and only slightly curved when strung. The string was either of flax or silk and the arrows were about a yard in length. In a treatise on warfare, written in the reign of Queen Elizabeth, the bow is described as a "noble weapon," with which "none other weapon can compare." Two long-bows of the time of Henry VIII. are preserved in the armoury of the Tower.

In the fifteenth century the French appear to have held the yew bow in the highest esteem. A law was passed in the reign of Charles VII., ordering yew-trees to be planted in all the Norman churchyards, so that wood might not fail for the construction of the weapon. It ceased to form the weapon of the royal regiments at the close of the reign of Louis XII.

Italian bows used during the middle ages were frequently of steel, shaped

* *Manners and Customs of the Ancient Egyptians*, vol. i., p. 202 (ed. 1878).

after the fashion of the Grecian weapon, that is, with double curves and a central handle. These were usually between four and five feet in length.

In Christian art, the bow and arrows form the attribute of St. Sebastian; who suffered martyrdom by being transfixed with numerous arrows.

BOWER. The ladies' chamber or private sitting room in the castles or mansions of the middle ages; it assumed its greatest importance in those of the fourteenth and fifteenth centuries. It appears, from certain passages in old romances, that the term bower was applied indiscriminately to a sitting-room or parlour and a bed-chamber. The mediæval bower in all probability suggested the later boudoir, introduced in the eighteenth century.

BOWTEL. This word is met with in old writings in the following forms: BOUTEL, BOWTELL, BOWTELLE, BOLTELL, BOULTEL, and BOTTLE. It was used to designate a round moulding or bead, and sometimes it was applied to a slender shaft or pillar, "but rather," as Professor Willis remarks, "as a moulding, than as a diminutive pillar or columnell." As regards the derivation of the term there are differences of opinion, and probably room for doubt; but the most likely and generally accepted one is, that the term was originally *boltel*, the diminutive of *bolt*, the shaft of an arrow or javelin. In *The Itinerarium* of William of Worcester (written about the middle of the fifteenth century) we find the term repeatedly used in connexion with the mouldings of the west door of the church of St. Mary Redcliff, Bristol, thus:—

"A chamfer, a *bowtelle*, a casement, a fylet, a double ressalt wyth a fylet, a casement, a fylet, a *bowtelle*, a fylet, a casement, a fylet, a grete *bowtelle*, &c., &c."*

In the following passage in the carpenter's agreement for desks, &c., for the Beauchamp chapel, at Warwick, the term is evidently applied to a horizontal rod of wood connecting the points of the carved leaves of an ornamental cresting:—

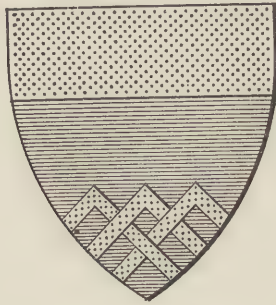
"Richard Bird and John Haynes, citizens and carpenters of London, xiii. Febr. 28. H. 6., do covenant to make up in the chappell where the Earle is buried, or where the tombe standeth, a pair of desks of timber, poppies, seats, sills, planks, reredoses of timber, and partands of timber, and a crest of fine entail, with a *bowtel* roving on the crest," &c.

BRACE. The term applied to a straight or curved piece of timber, used in roofs or trusses in such a manner as to prevent the important members of the construction from altering their positions horizontally. Braces were much used in the open timber roofs of the middle ages, where

* The student who desires to follow this subject further should consult Professor Willis's *Architectural Nomenclature of the Middle Ages*. Cambridge, 1844.

they were treated so as to contribute to the beauty of their designs. The braces usually took their particular names from the *horizontal* members they supported. We accordingly meet with the terms HAMMER-BRACES, or those under the hammer-beams; PURLIN-BRACES, those supporting the purlins towards their centres; TIE-BRACES, those under the tie-beams; COLLAR-BRACES, those supporting the collars; and RIDGE-BRACES, those occasionally introduced to keep the ridge-piece horizontal, as in the roof of Starston church, Norfolk.

BRACED OR BRAZED. In heraldry, the term used when charges are represented interlaced, as in the accompanying illustration.



(*Example—Azure, three chevronels braced in base, or, a chief of the last.*)

BRACELET. An ornament of gold, silver, bronze, ivory, or other materials, worn on the wrist. Bracelets are of great antiquity, having been worn by the Egyptians, the Jews, and all the ancient nations. Egyptian bracelets appear to have been richly ornamented with precious stones and coloured enamels, and to have been worn by both sexes. In the Leyden museum is a massive gold one, bearing the name of Thothmes III., the supposed contemporary of Moses. The Greeks and Romans wore them largely, as the numerous examples, in gold and bronze, found at Herculaneum and Pompeii, plainly prove. In this country bracelets were favourite ornaments at all periods, the Normans probably affecting them less than the Saxons or the earlier inhabitants. From the twelfth to the beginning of the fifteenth century bracelets do not seem to have been very common, although they never went entirely out of fashion; but in the fifteenth century they came rapidly into favour, and since that time have never lost their hold on female taste. Planché tells us:—"Dion Cassius describes Boadicea as wearing bracelets on her arms and wrists. William of Malmesbury tells us that the Saxons at the time of the Conquest were in the habit of loading their arms with them: *brachia onerati*; a fashion which the monkish writers assert was borrowed from the Normans, whose customs at that period they greatly affected. In the will of Brithric and his wife Elfswythe an arm-bracelet is mentioned weighing one hundred and eighty mancuses of gold, nearly twenty ounces troy weight; and another,

bequeathed to the queen, weighing thirty mancuses of gold, or three ounces and a half. (Hickesii Dissert. p. 51.) Ethelstan is called in the Saxon Chronicle, 'the child of the bracelet givers.'"

Ancient bracelets were usually in the form of rings, or snakes coiled three or four times round the arm. British bracelets were commonly plain or twisted rods of gold, bent so as to simply clasp the wrist, or in some cases coiled many times round it. Good examples of both these forms have been found. Of later forms it is unnecessary to speak.

BRACKET. The term commonly and correctly used to designate an article in wood or metal used to support, by means of leverage, anything placed against the face of a wall. The bracket, therefore, practically fulfils the same office as the corbel does in stonework. Gwilt thus describes the term, first giving its derivation from the Latin word *brachium*, an arm:—"A supporting piece for a shelf. When the shelf is broad the brackets are small trusses, which consist of a vertical piece, a horizontal piece, and a strut; but when narrow the brackets are generally solid pieces of board, usually finished with an ogee figure on their outer side." In this passage the term truss is incorrectly applied; a bracket, properly speaking, can never be a truss.

The term appears to have been written in old documents as BRAGGER and BRAGET.

BRASSARD OR BRASSART. The name used to designate those portions of plate armour which protected the arms and extended from the shoulder to the wrist, being jointed at the elbow. Planché, in his *Encyclopedia of Costume*, says that the portion from the shoulder to the elbow is called the "rere-brace," and that from the elbow to the wrist the "vant-brace (or, as it is sometimes written, vambrace) from the French *arrière-bras* and *avant-bras*." Viollet-le-Duc, however, draws our attention to the fact that we must not confound the *arrière-bras* and *avant-bras* with the brassards. He remarks:—"Le brassard est composé de pièces articulées qui tiennent ensemble par des rivets, et qu'il suffisait d'attacher à l'épaule sur la cuirasse close ou sur le colletin, tandis que l'*arrière-bras* et l'*avant-bras* étaient des pièces séparées et qui pouvaient être portées l'une sans l'autre. L'*avant* et l'*arrière-bras* précèdent de beaucoup le brassard."

The brassart does not appear to have reached its full development before the end of the fourteenth century.

BRASSES, MONUMENTAL. Plates of brass, or the alloy termed "*latten*" by middle age writers, inlaid on the face of slabs of stone or marble, and engraved so as to represent the features, figures, and the costumes or armour of the personages whose deaths they record. The plates are either oblong sheets of brass, upon which the figures are rendered distinct by elaborately engraved backgrounds of diaper-work; or are cut

to the outlines of the figures and the accessories, and inlaid upon slabs of dark grey marble.

These two different methods form the chief distinction between the brasses of France or Flanders and those of this country. The continental brasses appear to have invariably been in one piece of metal, simply attached to the surface of stone slabs; but those of English manufacture were always in separate pieces, inlaid flush, in their proper relative positions, on the polished slabs, usually of Purbeck marble. Certain examples of what may be distinguished as *complete* brasses exist in this country, but

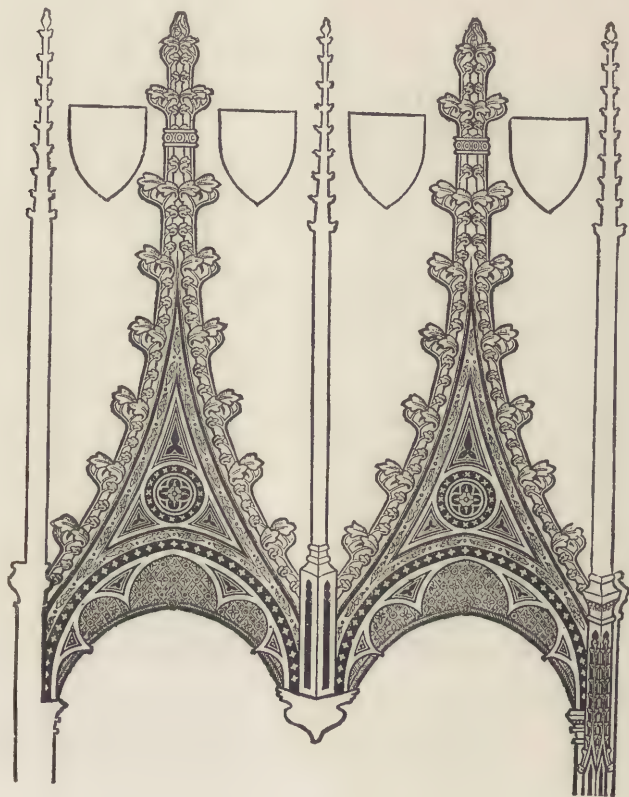


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they are believed to be of Flemish manufacture. Examples of the English or *disconnected* brasses are still preserved in great numbers throughout our ancient churches. The mode adopted by the continental artists rendered a great amount of engraving necessary; and accordingly designs were produced of a richness altogether unknown to English workmen. The accompanying illustration, Fig. 1, from a fragment of a Flemish brass (dating about 1375), in private possession, shows to what an extreme

degree elaboration of detail was carried in fine examples.* Nothing can well surpass the beauty of the design and treatment here obtaining. The drawing of the small figures is perfect; while the scroll-work behind the bishop's head, the pastoral staff, and the canopy-work, are worthy of the most careful study. What this brass must have been when complete, even this important fragment can give us but an imperfect idea.

Fig. 2 gives a fair idea of the amount of work bestowed upon the



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canopies of English brasses. It is from the monument of Sir Robert Staunton and Lady (date 1458), in Castle Donington church, Leicestershire. The brass is of the usual *disconnected* class, the outlines in the illustration showing the sunk portions in the slab from which the brass pinnacles and heraldic shields have been removed.

The study of monumental brasses is one of great interest to the lover of

* We are indebted for this beautiful example to the Rev. Charles Boutell's *Monumental Brasses of England*. Speaking of this fragment the author remarks:—"As a work of art, this fragment may, perhaps, be regarded as the very finest specimen of this class of monument known to be in existence."

mediæval art; and throws much light on the early history and development of early ornamental design in this country. On this subject Mr. Albert Way remarks:—"The engraved sepulchral memorials, which are found in remarkable profusion in England, and present so many features of interest, as well as sources of curious information, have of late years attracted much attention, and become the objects of assiduous research to those who love to investigate the progress of the arts of design, the peculiarities of costume in ancient times, or the intricacies of family history. It were needless to commend the value of these memorials to the genealogist, as authentic contemporary evidences; to the herald also, as examples of ancient usage in bearing arms, and of the peculiarities of heraldic design, which supply to the practised eye sure indications of date; or as authorities for the appropriation of badges and personal devices. During a period of three centuries these curious engravings supply a most interesting series illustrative of the costume of every class of society; they furnish examples of the conventional or prevalent character of ornament and design at each successive period, as also of architectural decoration, introduced with striking effect as an accessory in the rich and varied design of these memorials. As specimens of palæography, moreover, the inscriptions deserve attention, and supply authorities which fix the distinctive form of letter used at certain periods, conformable for the most part to that which is found in the legends on painted glass and on seals. Upon evidences such as these, the student of art during the Middle Ages is enabled to form a positive opinion as to the precise age of any object, or the country whence it was derived, with as full confidence as if a date had been inscribed upon it: when characteristic ornament of a general kind may be insufficient for the purpose, he has recourse to some peculiarity of costume; even the quaint fashion of an heraldic bearing or device may be sufficient to define the age of the work in question. The fidelity, with which at different periods the propriety of such details was uniformly observed, is remarkable; there was indeed great variety in dress and the character of ornament, but it arose from the caprice of the period, not of the artist; each period had its distinctive prevalent fashion, each country its own marked peculiarities, which were faithfully observed in all works of art and decoration."

It has not been satisfactorily decided at what period or in what country the art of engraving monumental brasses was first introduced; but it is generally supposed to have been suggested by the early process of enamelling known as the *champlevé*; indeed there is very little difference, practically speaking, between an engraved brass and the metallic plate prepared for the reception of the enamel colours. Monumental brasses were sometimes filled in their engraved portions with vitreous pastes, though more commonly with a waxy or resinous composition of a black colour. The only real difference between the brass and the plaque to be enamelled is this: in the former the outlines of the figures and the ornamental details are engraved on the polished plate, leaving the general surface otherwise untouched; in the latter the surface is almost entirely cut away or sunk,

the outlines of the figures and certain ornaments being left standing for the purpose of separating the colours and ultimately accentuating the design. (See *Enamelling, Art of.*)

Mr. Albert Way makes the following pertinent remarks on the subject of the introduction of monumental brasses:—"The precise period of the earliest use of such memorials has not been ascertained, but it is probable that they began occasionally to supply the place of the effigy sculptured in relief, during the earlier part of the thirteenth century. The fashion appears to have been prevalent in England, France, and the Low Countries, almost simultaneously; it is obvious that as the practice of interring persons of distinction in churches became frequent, the use of table-tombs, or effigies in relief, was necessarily found inconvenient, as occupying space in the area of the fabric, which was required for the services of the church. The advantages, therefore, arising from the introduction of flat memorials, which formed part of the pavement, and offered no obstruction, must have quickly brought them into common use. Amongst the earliest recorded instances in England may be mentioned the tomb of Jocelin, bishop of Wells, placed by him during his life-time in the middle of the choir, and described by Godwin as formerly adorned with a figure of brass. He died in 1242. Dart describes the slab, from which the inlaid brass figure of Richard de Berkyng, abbot of Westminster, had been torn, as existing when he wrote. This abbot died in 1246. The brass which represented Robert Grosteste, bishop of Lincoln, who died in 1253, still existed when Leland visited the cathedral; and Drake describes the gilded brass which was formerly to be seen at York on the tomb of Dean Langton, who died in 1279. The date of the earliest existing specimen is about 1290; it is the figure of Sir Roger de Trumpington, who accompanied Prince Edward in the holy wars, and is represented with his legs crossed. . . . There is no reason, however, to believe that brasses of this early period ever existed in England in any large number; and it is only towards the latter part of the fourteenth century that such memorials occur in abundance, presenting in their details a remarkable variety; so that although a great general similarity will be found between several brasses of the same date, no two specimens have hitherto been noticed which are precisely identical, or may be regarded as reproductions of the same design."

The brass plates used in England and on the continent appear to have been manufactured almost exclusively in Flanders and Holland; there is, however, no positive information to this effect in written documents. One record has been cited; it is "a passage in the contract for the tomb of Richard Beauchamp, dated 1454, in which is covenanted to provide a large plate, 'to be made of the finest and thickest Cullen plate,' to cover the top of the altar-tomb. It is certain that Cologne was an emporium whence the merchants of England received a great variety of wares. In the 'coppye of specery,' a table of rates which may be assigned to the close of the fifteenth century, given in Arnold's *Chronicle of the Customs of London*, we find amongst various merchandise of Flanders the following wares:

'Latyn basyns at 28s. Latyn plate . . . Doubill plate 16s. white plate, at 12s. sengyll plate, at 7s. 6d.'''* There are several examples of what Mr. Way designates "palimpsest brasses" in this country which bear on their reverse faces Flemish inscriptions.

When the plates were engraved, the lines and sunk portions were filled in with some hard and tenacious composition, usually black, but sometimes of different colours. Vitreous enamels appear to have been used in some works, though probably never entirely over large plates. Examples of the extensive use of enamelling in monumental metal work are furnished by the tablet on which, enclosed by elaborate ornamentation, is represented the full-length figure of Geoffrey Plantagenet, Earl of Anjou (died 1149), and by the effigy of William de Valence, Earl of Pembroke, both of which are engraved in Stothard's *Monumental Effigies of Great Britain*. On this department of our subject, the learned antiquary, Mr. Albert Way, says:—"One remarkable circumstance has not hitherto been sufficiently investigated, as regards the workmanship of engraved memorials. The surface of the metal being burnished, or even in some cases gilded, it is obvious that the effect of the incised lines would be lost, if they were not filled up with some black composition, and there can be scarcely a doubt that in every instance the lines, and all the excised parts of the field, or other portions where diapering was introduced, were filled in with black, or in many cases with coloured compositions. Some examples, even of the earliest period, still exist, which exhibit enamel thus employed for the enrichment of works of this description, such as the full sized brass of one of the d'Aubernouns, at Stoke d'Abernon, in Surrey, in which instance the blue enamel of the shield,† a surface of very considerable extent, is still very perfect. The date of this work is about the reign of Edward II. Other specimens may be seen at Elsing in Norfolk, Ifield in Sussex, Broxbourne in Essex, and several other churches, and it is very probable that the introduction of enamel in this manner was much more frequent than at first sight we might be inclined to suppose; for the contraction and expansion of the metal, and exposure to the feet of the congregation, would quickly throw off every fragment of so brittle a substance as enamel. The subject is one which seems not undeserving of attention in connection with the history and practice of artistic processes in our country, both on account of the few evidences that exist to show that enamelling was practised in England, with any perfection, and also because enamel is usually applied to copper, brass being commonly considered incapable of sustaining the requisite degree of heat. The curious observer will therefore do well to ascertain, when any brass bearing traces of enamelled work comes under his notice, whether the metal employed in such cases be copper, or the usual hard kind of brass anciently termed latten, a mixed yellow metal of

* *The Archaeological Journal*, vol. v., p. 161.

† Mr. Waller points out that this shield is a separate plate, apparently of copper.—*The Archaeological Journal*, vol. xix., p. 285.

exceedingly hard quality, and which appears to be identical in composition with that now used for making cocks for casks or cisterns, technically called cock-brass."

The methods of fixing the brass plates to the stone slabs do not seem to have differed much. Those which were cut out to the forms of the figures and the accessories, and inserted in sunk portions of the stone, were commonly fixed with pitch, sometimes used alone, as in many examples of fifteenth century date, and at others with the addition of rivets leaded into the stone. Large or *complete* brasses were always secured in the latter manner. The large plates used by the continental artists were formed of several plates soldered together, and then reduced to a uniform surface and polished.

Of the state of the art of engraving brasses in France during the middle ages we have practically no satisfactory knowledge. That the cathedrals and abbey churches were rich in brasses there is no doubt, but unfortunately they were, with scarcely an exception, destroyed during the revolutionary period of 1790. We are not aware of any perfect examples having been brought to light in France, beyond the single one preserved in the cathedral of Amiens, a mural tablet with a small kneeling effigy of Jean VIII., one of the bishops of Amiens, who died in 1465. The *Glossary* states that "there are brasses at Minster, in the Isle of Sheppey, of a knight and his lady, (partly restored,) which have the appearance of being designed in France. These brasses are of the latter part of the reign of Edward II."* The fine incised stone slabs (*dalles tumulaires*) which still exist in France give us some idea of what the designs of the contemporaneous brasses were like. One example, originally in the church of Sainte-Geneviève, and now preserved in the Ecole des Beaux-Arts, at Paris, may be referred to with profit to the student; an illustration of this fine slab is given in our article *Incised Slabs, Monumental*.

Several fine and important Flemish brasses are in existence, which clearly show the perfection to which the engraving of such memorials was carried in that country during the fourteenth and two following centuries. Superb examples are to be seen in the cathedral of Bruges, six in number, ranging in date from 1387 to 1555. The finest is probably that of Jean de Liekerke and his wife, a large oblong plate most elaborately engraved throughout its entire surface; a careful drawing of this brass is given in Gailhabaud's *L'Architecture du V^{me} au XVII^{me} siècle*. In the same work is given a drawing of another fine brass preserved in the cathedral, equally rich in treatment. A beautiful Flemish brass is to be seen in the Museum of Economic Geology, London. It originally belonged to the chapel of the château of Cortville, near Liège. It represents Lodewyc Cortewylle and his lady (1496-1504) nearly the size of life, and, as is usual in Flemish brasses, surrounded with elaborate ornamental work. In the church of

* Engravings of these interesting brasses are given in Stothard's Work, *The Monumental Effigies of Great Britain*.

St. James, at Bruges, there are also several important brasses; two are framed and hung upon hinges, being palimpsests (1350, 1615). Ghent is not rich in monumental brasses, like Bruges. Two interesting examples are, however, preserved in the hospice of St. Laurence; they represent the founder, Willem Wenemaer, and his wife (1325-1352); originally they adorned a tomb which was broken up by the Gueux. The fragment represented in Fig. 1 will give our readers a fair idea of the highest class of Flemish art in this direction.

Several good German brasses of late date are to be seen in the cathedrals of Meissen, Bamberg, Naumburg, and Hildesheim, and in the church of St. Catherine, at Lübeck. In the first-named building is a memorial of Frederic the Quiet, elector of Saxony, who died in 1464. It is a *complete* brass, measuring 8 ft. 6 in. by 4 ft. 9 in.; upon it is engraved a life-sized effigy of Frederic, attired in an ample fur-lined robe and fur cape, and holding in his right hand the sword of state; his head wears the ducal cap, and rests upon a cushion. The field around the figure is covered with an elaborate diaper or brocade pattern. At the angles of the design are the four symbols of the Evangelists. The workmanship is good, but the engraving is perhaps rather too minute to be effective. This brass represents the more elaborate German style, which differs but little from that presented by contemporaneous Flemish brasses.* There is a brass on the floor before the choir in the cathedral of Hildesheim, which is a type of a bolder and simpler school of work. It is also a *complete* brass, engraved with an effigy of a bishop, fully vested, bearing in his right hand a pastoral staff, and in his left a model of a fortified building. An inscribed border surrounds the plate, but the ground around the effigy is quite plain.

England is richer in monumental brasses than any other country, and numerous very beautiful examples exist. It is much to be regretted, however, that so many which were preserved to the beginning of the present century have since been destroyed or stolen. Speaking of the destruction of brasses, along with other subjects, the Rev. W. Drake remarks:—"The Eastern counties contain more numerous examples of sepulchral brasses than any other district of the kingdom, and this fact has often been quoted to warrant the opinion that they were of foreign manufacture, and imported from Germany or Flanders in readiness to be laid down. There are, however, many objections to be urged against this conclusion, and the fact itself may be more satisfactorily explained if it be considered that these memorials were only within the reach of the wealthy, and that the Eastern counties were, in the days when sepulchral brasses were in fashion, the scene of manufacturing wealth and activity: Ipswich, Norwich, Lynn, and Lincoln were great and important cities, when Birmingham and Liverpool were as yet country villages. In Norfolk, especially, the effigies of civilians abound, and Norwich with its numerous churches even now (sadly reduced

* Descriptions of other brasses (sixteenth century) in the cathedral of Meissen are given in *The Archaeological Journal*, vol. xi., p. 289.

as the number is) exhibits a collection of sepulchral brasses which attests the wealth of its ancient merchants and the splendour of their civic dress.



Many of these have been made known in Cotman's elaborate work on the Sepulchral Brasses of Norfolk, but unhappily, as it would seem, in more than one case only with the effect of inviting the cupidity of the spoiler,

since many which Cotman engraved, so lately as 1815, have now disappeared. Among others we may mention two from St. Stephen's of great interest, figured in Plates 17 and 104, and the curious figure of Faith, bearing the brazen bed, from the brass of Galfridus Langley, in the church of St. Lawrence, Plate 97. To these may be added the effigy of John Clarke, stolen from St. Andrew's in the memory of the present incumbent (1845), and brasses formerly to be seen in the churches of St. Edmund and St. Mary, now no longer to be found."

As we have before stated, brasses of undoubted English manufacture are of the *disconnected* species. They usually consist of effigies surrounded with borders or placed under canopies formed of different pieces of brass, cut to the outlines of the figures and accessories, and inlaid on slabs of dark grey marble or some hard stone. Examples of effigies enclosed within borders only are to be seen in Wisbeach church, Cambridgeshire; South-acre church, Norfolk; the church of the hospital of St. Cross, Winchester; Wiston church, Sussex; Spilsby church, Lincolnshire; and Broughton church, Oxfordshire. Examples, with effigies under canopies, exist in Laughton church, Lincolnshire, Fig. 3; Fletching church, Sussex; Elsyng church, Norfolk; Broadwater church, Sussex; Acton church, Suffolk: and examples, with both canopy work and surrounding borders, are to be seen in Enfield church, Middlesex; Castle Donington church, Leicestershire; Thruxton church, Hampshire; and Great Tew church, Oxfordshire. In addition to these varieties of treatment, brasses consisting of semi-effigies, usually surmounting oblong plates bearing inscriptions, are to be seen in Chinnor church, Oxfordshire; Cobham church, Kent; Hellesdon church, Norfolk; Kemsing church, Kent; Wantage church, Berkshire; Oakham church, Surrey; Lewknor church, Oxfordshire; and St. Margaret's church, Rochester: the last-named example is a palimpsest brass. Brasses in the form of crosses, with or without effigies or parts of effigies, exist in Chinnor church, Oxfordshire; Hereford cathedral; Stone church, Kent; Higham Ferrers church, Northamptonshire; Grainthorpe church, Lincolnshire; Cassington church, Oxfordshire; and Beddington church, Surrey.

The execution of English brasses varies in excellence, as their designs do in degree of elaboration. The adoption of a marble ground prevented the introduction of the richly engraved backgrounds so common in continental examples. Much care was, however, sometimes taken in engraving the effigies, as may be seen on reference to Fig. 4, the brass of bishop Goodrich, in Ely cathedral. Boutell, describing this brass, says:—"The effigy was originally placed beneath a single canopy: but this canopy, with four shields, a foot-legend, three small scrolls, and about half of the border-fillet with its inscription, and two angle-emblems, are now lost. The effigy itself is almost perfect; it represents the prelate in his full episcopal vestments, as he wore them *after* the Reformation: he holds in his right hand a bible: and having been appointed Lord Chancellor A.D. 1551, he also holds the Great Seal."

Directions for making rubbings and accurate copies of monumental brasses hardly come within the scope of the present brief article; but as our readers may desire to become acquainted with the methods which have been adopted by different artists and archæologists, we have great satisfac-



tion in being able to refer them to exhaustive remarks on the subject by Mr. Albert Way, in *The Archaeological Journal*, vol. i., p. 204. The works which the pupil may profitably study, with the view of becoming thoroughly conversant with the subject of English monumental brasses, are Waller's *Series of Monumental Brasses in England*; the *Oxford Manual for the Study of Brasses*; the Camden Society's *Monumental Brasses*; Gough's

Sepulchral Monuments; Cotman's *Sepulchral Brasses of Norfolk*; and the Rev. Charles Boutell's works, *The Monumental Brasses of England and Monumental Brasses and Slabs*.

BRATTISHING. The term which appears to have been correctly applied to an ornamental cresting or battlement. In the *Rites of Durham* we find the following:—"On the topp of the cover, from end to end was a most fyne brattishing of carved worke, cutt owte with dragons, and other beasts, most artificially wrought." The shrine of St. Cuthbert is here alluded to.

BRAZIER. A metal pan or vessel, circular, square, or oblong in shape, usually supported on short legs, and used for burning charcoal or other fuel. The brazier (*Gr.* ἑσχάρα, *Lat.* *foculus*) was commonly used by the Greeks and Romans, who had no properly constructed fireplaces and chimneys in their apartments. Their braziers were commonly of bronze, but were sometimes ornamented with enrichments in silver and other metals, as in the large one found in 1761 in a temple in Herculaneum; it is supported on lion's paws, and has ornamental borders inlaid with foliage in copper and silver. Numerous examples have been found in Herculaneum and Pompeii.

Braziers have been in constant use throughout Italy from the earliest times. During the middle ages they were commonly used in the north of Europe for warming churches and apartments; they were frequently of considerable dimensions, formed of iron, and placed in shallow pans on wheels. This arrangement permitted their easy removal from place to place or room to room, as required, without the ashes being dropped about the floors. M. Viollet-le-Duc gives a drawing of a large brasier (*réchaud*) of this sort in *Dictionnaire Raisonné de Mobilier Français*, vol. i., p. 206, a highly characteristic piece of ironwork of the thirteenth century.

BREADTH. The term employed in painting to express the grandeur of effect which an artist secures in his works by a simple and effective arrangement of objects and a judicious use of light and shade. On this subject Mr. Pyne remarks:—"Breadth in painting, is a term which denotes largeness, space, vastness. Its operation is not limited by a small canvas, or extended by a large one. Finish does not preclude, or negligence secure it. It very seldom accompanies a mere outline, though some few and limited subjects in outline admit it. Its greatest promoters are colour and *chiaro-oscuro*, in which, when under consummate management, it revels in its full power and grandeur."

Breadth is possible in sculpture, but the term is comparatively seldom used in connection with it.

"Breadth of effect is one of the highest qualities of art in any department. It implies that perfect mastery of the resources of composition, combined with consummate judgment in their application, which is the

especial characteristic of the great artists ; it exhibits that power of casting in one mould, of conceiving and of comprehending the most complicated arrangement in one idea, which they alone possess." *

BREAK. The term used in architecture to denote the part of a building at which the design takes a distinct departure from that which obtains in the chief portion ; or where two distinct styles join. The term is also applied to a projection or recession from the general surface of a wall or other architectural feature.

BREAKFAST ROOM. An apartment commonly provided in houses of important dimensions, in which the family partake of the first meal of the day. As a general rule this apartment also serves as the morning room. In mansions of the first order it is a distinct apartment. Opinions differ as to the most desirable aspect for this room, but it is agreed that it should be kept cool during the earlier part of the day, while the effect to be seen from its windows should be cheerful. If the house is situated in the country the aspect of the breakfast room should be south or south-west, so that while no sun can strike into its windows in the early part of the day, the view seen from them may be fully lit up with its rays. The windows should be so constructed as to allow persons to pass out and in through them, especially if there is a lawn or garden in front of them. A conservatory is frequently added, adjoining this portion of the house.

The furniture should be simple and light, selected with the view to comfort, but not idle repose. The decorations should have a cheerful but cool tone; quiet shades of green and neutral tints are highly suitable for the general wall surfaces.

BREAST-PLATE. In armour, the front portion of the cuirass, or the plate which entirely covers and protects the breast of the wearer. (See *Cuirass*.)

BREPHOTROPHIUM. The term used by classic and late Latin writers for an hospital in which poor children, orphans, and foundlings were maintained and educated.†

BRETESS. (*Fr. Bretèche*.) A construction, usually of timber, erected in front of walls and towers for purposes of defence. The term, according

* *Dict. of Arch.*, Arch. Pub. Soc., Lond,

† "BREPHOTROPHIUM, Græc. Βρεφοτρόφιον, *Ædes in qua infantes, recentesque partus expositi, aut egentibus parentibus nati alebantur*, in leg. 16. & 18. Cod. de Sacros. Eccl. Vita MS. S. Magnebodi Episcopi Andegavensis cap. 5. *Xenodochia ac Brephotrophia, diversaque mansionum habitacula ædificare procuravit*. [Ambrosius Camaldul. Epist. ad Eugenium PP. IV. apud Marten. to. 3. Ampliff. Collect. col. 15. *Locus intra Florentina urbis mœnia, Brephotrophion Græci appellant, ubi expositi incertis parentibus educantur infantes.*] Vide Capitula Caroli M. lib. 2. cap. 29."—Ducange. *Glossarium*.

to certain writers, also signifies a sort of temporary tower or fortification of wood ; * and this signification is supported by Ducange ; his quotations, however, are not conclusive.

The breteſs was usually constructed over a gateway or portion of a wall liable to be attacked ; it was of ſufficient dimensions to hold ſeveral archers or cross-bowmen, and projected from the wall ſo as to allow openings to be made in its floor, through which ſtones or burning materials could be let fall on the heads of the beſiegers. The ſides of the breteſs were provided with ſhutters or loops, for the diſcharge of arrows or bolts.

In old Engliſh writings the term is found in the following forms :—BRETESS, BRETISS, BRETTYS, BRETISE, and BRETEX. For the late Latin renderings of the word, further remarks on the application of the term, and for illuſtrations of different forms of the breteſs, the curious reader ſhould conſult the *Dictionary* of the Architectural Publication Society ; the *Dictionnaire Raiſonné de l'Architecture Française* ; and the *Glossarium* of Ducange, s. v. BERTHESCA and BRETACHIE.

BRICKWORK. Building of any deſcription executed with bricks is commonly designated by the general term, brickwork. The deſcription of the work is generally dependent on the nature of the bricks employed and the manner in which they are bonded.

The art of building with bricks is of the greateſt antiquity, coeval indeed with the earlieſt ſtructures of which we have any record or knowledge. The Egyptians, Assyrians, Jews, Greeks, Romans, and indeed all the nations of antiquity, largely uſed bricks in their important ſtructures. Several of the pyramids of Egypt are of this material, and in one inſtance at leaſt it was conſidered in no wiſe inferior to ſtone. Sir J. Gardner Wilkinſon ſays :—“ Among the monuments erected by Aſychis was a pyramid of brick, with this inſcription engraved on a marble ſlab, ‘ Compare me not with the ſtone pyramids, for I am as ſuperior to them as Jove is to the other gods. Thus was I made : men probing with poles the bottom of a lake drew forth the mud which adhered to them, and formed it into bricks.’ Four pyramids built of theſe materials ſtill remain in Lower Egypt, independent of ſeveral ſmaller ones at Thebes, and it is probable that one of them is that alluded to by Herodotus as having been

* BRETECHE, s. f. *Bretesche, bretesce, bertesche, berteiche, bretreske.* On désignait ainſi, au moyen âge, un ouvrage de bois à pluſieurs étages, crénelé, dont on ſe ſervait pour attaquer et défendre les places fortes. Quand il ſ’agit de l’attaque, la bretèche diffère du beffroi en ce qu’elle eſt immobile tandis que le beffroi eſt mobile. La bretèche ſe confond ſouvent avec la baſtide ; la dénomination de *bretèche* paraît être la plus ancienne. On diſait, dès le xi^e ſiècle, *bretescher* pour fortifier garnir de créneaux de bois, ou de hords . . . On *breteschait* des défenses fixes en maçonnerie, ſoit par des charpentes a demeure, ſoit par des ſaillies provisoires en bois qui permettaient de battre le pied de ces défenses, des passages, des portes. Dans ce cas, ce qui diſtingue la bretèche du hord, c’eſt que le hord eſt une galerie continue qui couronne une muraille ou une tour, tandis que la bretèche eſt un appentis isolé, ſaillant, adossé à l’édifice, fermé de trois côtés crénelé, couvert et percé de mâchicoulis.”—Viſſet-le-Duc. *Dict. Rais. de l’Arch. Française.*

erected by Asychis. Two are close to Memphis and the modern town of Dashoor; the others stand at the entrance of the Fyoom. Near the former are two pyramids of stone; and this circumstance, and their vicinity to Memphis, induce me to believe one of them to be the crude brick monument in question; for it is reasonable to suppose it would be erected near the city where the prince resided, and in the vicinity of stone pyramids, to which it forbade the spectator to compare it. In what its superiority consisted, we are unable to decide."* Probably the most stupendous work constructed of bricks by the Egyptians was the wall reported to have been raised by Sesostris on the east side of the country, from Pelusium along the edge of the desert, about 187 Roman miles in length: vestiges of this work still remain. A brick arch has been found, of the reign of Amenophis I., about B.C. 1540. Sir J. Gardner Wilkinson remarks:—"The use of crude brick, baked in the sun, was universal in Upper and Lower Egypt, both for public and private buildings; and the brick-field gave abundant occupation to numerous labourers throughout the country. These simple materials were found to be peculiarly suited to the climate; and the ease, rapidity, and cheapness with which they were made, offered additional recommendations. Inclosures of gardens or granaries, sacred circuits encompassing the courts of temples, walls of fortifications and towns, dwelling-houses and tombs, in short, all but the temples themselves, were of crude brick, either with or without straw; and so great was the demand, that the Egyptian government, observing the profit which would accrue to the revenue from a monopoly of them, undertook to supply the public at a moderate price, thus preventing all unauthorised persons from engaging in their manufacture; and, in order more effectually to obtain their end, the seal of the king, or of some privileged person, was stamped upon the bricks at the time they were made."†

The Assyrians used two varieties of bricks, one made from clay mixed with chopped straw, moulded, and dried in the sun; and the other made from clay only, moulded, stamped with inscriptions, and kiln-burnt. The sun-dried bricks were used for the construction of the artificial platforms or mounds on which the palaces were erected, and also for the inside portions of the thick walls of those palaces. Walls so built were protected from the action of the weather by being faced with alabaster, stone, or kiln-burnt bricks. Interior walls were often of sun-dried bricks plastered over and painted. The Assyrians also made enamelled bricks of several colours, which they used for the upper surfaces of palace walls, disposed ornamentally. The city gates at Khorsabad, discovered by M. Place, the French Consul at Mosul, had arches decorated with archivolts formed of blue and yellow enamelled bricks.

The extensive use of sun-dried bricks has been fatal to the preservation of Assyrian buildings; from the action of the weather everything save the

* *Manners and Customs of the Ancient Egyptians* (Ed. 1878), vol. i., p. 87.

† *Ibid.*, vol. i., p. 342.

facing slabs and a few remains of the burnt and enamelled brickwork has sunk into formless clay. Such is practically the case with Babylonian remains, although extensive works in burnt bricks, strongly cemented together, and quantities of enamelled bricks, have been found. (See *Babylonian Architecture*.) Herodotus, in his description of the construction of the walls of Babylon, says:—"They formed bricks out of the earth dug from the trenches; these they burnt in furnaces, and afterwards cemented together with hot bitumen."

Of the use of bricks by the Jews little definite is known; but the passages in the Old Testament clearly prove that they were acquainted with both sun-dried and burnt bricks. They certainly served a hard apprenticeship in the brick-fields of Egypt.

Bricks are spoken of by several Greek authors besides Herodotus; Pausanias, in particular, speaks of temples and other structures built of bricks. Sun-dried bricks appear to have been preferred by military engineers for fortifications. Pausanias, in relating how Agis besieged Mantinea, says that he diverted the course of the river, which flowed near, against the walls of the town, and softened them and washed them down; "for the walls were built of sun-dried bricks (ἐξ ὁμῆς πλίνθου), which are considered safer against the operations of military engines than either burnt bricks or stones, for these are quickly broken and fly out, while the crude bricks are less easily destroyed by blows,"

Bricks were the chief building materials of the Pompeians and Romans, and indeed were commonly used throughout Italy from the earliest times. Mention is frequently made of them by Latin authors, notably Pliny, Varro, Columella, Palladius, and Vitruvius. The last writer, speaking of the construction of the walls of a city, says:—"I do not consider it necessary to enlarge on the materials with which the walls should be built, because the most desirable cannot, on account of the situation of the city, always be obtained. Those which are found on the spot must, therefore, be used; such as stone, squared or as rubble, or bricks, burnt or unburnt; for every place is not so well supplied with suitable building materials as Babylon, where there was an abundance of well-burnt bricks and bitumen." (lib. i. cap 5.) The chapter, by the same author (lib. ii. cap. 3), entirely devoted to brickwork, is so interesting that we give it *in extenso*. It is somewhat remarkable, however, that Vitruvius here speaks only of sun-dried bricks.

"I shall first treat of bricks, and the earth of which they ought to be made. Gravelly, pebbly, and sandy clay are unfit for that purpose; for if made of either of these sorts of earth, they are not only too ponderous, but walls built of them, when exposed to the rain, moulder away, and are soon decomposed, and the straw, also, with which they are mixed, will not sufficiently bind the earth together, because of its rough quality. They should be made of earth of a red or white chalky, or a strong sandy nature. These sorts of earth are ductile and cohesive, and not being heavy, bricks made of them are more easily handled in carrying up the work. The proper seasons for brick-making are the spring and autumn, because they then dry more

equably. Those made in the summer solstice are defective, because the heat of the sun soon imparts to their external surfaces an appearance of sufficient dryness, whilst the internal parts of them are in a very different state; hence, when thoroughly dry, they shrink and break at those parts which were dry in the first instance; and thus broken, their strength is gone. Those are best that have been made at least two years; for in a period less than that they will not dry thoroughly. When plastering is laid and sets hard on bricks which are not perfectly dry, the bricks, which will naturally shrink, and consequently occupy a less space than the plastering, will thus leave the latter to stand of itself. From its being extremely thin, and not capable of supporting itself, it soon breaks to pieces; and in its failure sometimes involves even that of the wall. It is not, therefore, without reason that the inhabitants of Utica allow no bricks to be used in their buildings which are not at least five years old, and also approved by a magistrate.

“There are three sorts of bricks; the first is that which the Greeks call *Didoron* (*διδωρον*), being the sort we use; that is, one foot long, and half a foot wide. The two other sorts are used in Grecian buildings; one is called *Pentadoron*, the other *Tetradoron*. By the word *Doron* the Greeks mean a palm, because the word *δωρον* signifies a gift which can be borne in the palm of the hand. That sort, therefore, which is five palms each way is called *Pentadoron*; that of four palms, *Tetradoron*. The former of these two sorts is used in public buildings, the latter in private. Each sort has half bricks made to suit it; so that when a wall is executed, the course on one of the faces of the wall shows sides of whole bricks, the other face of half bricks; and being worked to the line on each face, the bricks on each bed bond alternately over the course below. Besides the pleasant varied appearance which this method gives, it affords additional strength, by the middle of a brick, on a rising course, falling over the vertical joints of the course thereunder. The bricks of Calentum in Spain, Marseilles in France, and Pitane in Asia, are, when wrought and dried, specifically lighter than water, and hence swim thereon. This must arise from the porosity of the earth whereof they are made; the air contained in the pores, to which the water cannot penetrate, giving them a buoyant property. Earth of this sort being, therefore, of such a light and thin quality, and impervious to water, be a lump thereof of whatever size, it swims naturally like pumice-stone. Bricks of this sort are of great use for building purposes; for they are neither heavy nor liable to be injured by the rain.”*

In the eighth chapter of the same book, Vitruvius gives some further particulars of interest to the student of ancient architecture. He remarks:—“In some states, not only public and private buildings, but even royal structures, are built of brick. We may instance that part of the wall at Athens towards Mounts Hymettus and Pentelicus, the temples of Jupiter and Hercules, in which the cells are of brick, whilst the columns and their entablatures are of stone; in Italy the ancient and exquisitely wrought wall of Arezzo, and at Tralles, a palace for the Attalic kings, which is the official residence of the priest. Some pictures painted on brick walls at Sparta, after being cut out, were packed up in wooden cases and transported to the Comitium to grace the *Ædileship* of Varro and Murena.” In this chapter Vitruvius alludes to burnt bricks, recommending them to be used on the tops of walls “to the height of about a foot and a half, and projecting over the walls like the corona of a cornice; thus the injury to be guarded against in such a wall (built of unburnt bricks) will be prevented;

* Gwilt's translation.

for if any tiles should be accidentally broken or dislodged by the wind, so as to afford a passage for the rain, the burnt brick, a protection to it, will secure the wall itself from damage, and the projection will cause the dropping of the water to fall beyond the face of the wall and thus preserve it. To judge of such burnt bricks," continues Vitruvius, "as are fit for the purpose is not at first an easy matter; the only way of ascertaining their goodness is to try them through a summer and winter, and, if they bear out through these undamaged, they may be used. Those which are not made of good clay are soon injured by the frost and rain; hence if unfit to be used in roofs they will be more unfit in walls."

So much for Vitruvius. We may now turn our attention to the brickwork of the Romans, in which burnt bricks were exclusively used. The bricks here met with are what we should now designate tiles, being of large size, but very thin in proportion to their superficial dimensions. The average thickness may be set down at $1\frac{3}{4}$ inches. The bricks were frequently stamped with the name or mark of the maker, and usually scored on their underside to give a good key for the mortar. The bricks were laid on thick beds of mortar, of excellent quality, forming wide joints; these, however, caused no failure in strength, for the mortar set and became as hard as the bricks.

In the south of Italy bricks have continued to be made and used much the same as in the times of the Empire; but in the north of Italy, during the middle ages, brickwork assumed a much more ornamental character. Speaking of the brickwork of Northern Italy in particular, Street remarks:—"It has been so much the fashion of late years to look upon brick as a vile material, fit only to be covered with *compo*, and never fit to be used in church-building, or indeed in any buildings of architectural pretension, that I suspect many people, trusting to their knowledge of pointed architecture in England, would be much surprised to find that throughout large tracts of the Continent, brick was the natural, and indeed the popular material, during the most palmy days of architecture in the middle ages. Yet so it was that in Holland, in Northern Germany, and in Northern Italy, stone was either scarce or not to be obtained, and brick was, therefore, everywhere and most fearlessly used. Both in Germany and in Italy it was used without any concealment, but each country developed its practice in this matter for itself, and there is, therefore, very much diversity in their practice. Both are unlike and far superior to what remains to us of ancient brickwork in England, for I need hardly say, that, with a rare exception here and there, as, *e.g.*, Holy Trinity church at Hull, brick was not used in England between the time of the Romans and the fifteenth century, and, when used afterwards, was seldom remarkable either for beauty or originality of treatment. In this matter, therefore, we are obliged to go to the Continent for information.

"Italian brickwork is remarkable as being invariably composed of nothing but red brick, with occasional but rare use of stonework; the bricks for the ordinary walling are generally rather larger than ours, in no

way superior in their quality, and not unfrequently built coarsely with a wide joint of mortar. Those used for windows, doorways, and generally where they were required to attract attention and to be ornamental, were made of much finer clay and moulded with the greatest care and skill. The transepts and campanile of Cremona cathedral are instances of red brick used without any intermixture of stone save in the shafts of the windows, and their effect is certainly very grand. The mouldings are elaborate, and the way in which the cusping is formed singularly successful. This, it must be observed, was not usually done by means of bricks moulded in the form of a cusp, but with ordinary bricks, built with the same radiating lines as those of the arch to which they belonged, and cut and rubbed to the necessary outline. . . . In all cases where brick is used for tracery, it is invariably plate tracery. The tympanum of the arch is filled in with a mass of brickwork, through which are pierced the arches over the several lights of the window, and these are supported on marble or stone shafts with carved capitals, instead of monials; and above these sometimes, as in the windows of S. Andrea, Mantua, are three cusped circles; sometimes, as in the palace at Mantua, only one cusped circle; or else, as in the beautiful example at Cremona, the plain brick tympanum is relieved by the introduction of a panel of terra-cotta, bearing the cross on a shield, whilst round its outer circumference delicately treated though large cusping defines the outline of the arch.”*

In Belgium and Holland numerous fine examples of old brickwork exist. At Ypres there are some interesting buildings; one, a house, dated 1544, ornamented with surface cusped tracery, carefully executed with small moulded bricks. The upper portion of the façade of the “butchery,” in the same town, is another interesting specimen of Late Pointed brickwork.† Dutch brickwork does not require special comment, though much of it is of excellent quality.

Alluding to brickwork in France, M. Viollet-le-Duc remarks:—“L’emploi de la brique remonte à la plus haute antiquité. Les Romains en firent grand usage, surtout dans les contrées où la pierre n’est pas commune. Pendant le Bas-Empire, ils élevèrent souvent les maçonneries au moyen de blocages avec parements de petits moellons taillés, alternés avec des lits de briques posées de plat. Les constructions gallo-romaines et mérovingiennes conservent encore ce mode. Mais, à partir du ix^e siècle, on rencontre très-rarement des briques mêlées aux autres matériaux; la brique n’est plus employée ou est employée seule. Nous devons toutefois excepter certaines bâtisses du midi de la France, où l’on trouve la brique réservée pour les remplissages, les voûtes, les parements unis, et la pierre pour les piles, les angles, les tableaux de fenêtres, les arcs, les bandeaux et corniches. C’est ainsi que la brique fut mise en œuvre, au xii^e siècle,

* *Brick and Marble in the Middle Ages*, pp. 268–272.

† Both these buildings are illustrated in Gailhabaud’s *L’Architecture du V^{me} au XVII^{me} Siècle*, vol. iii.

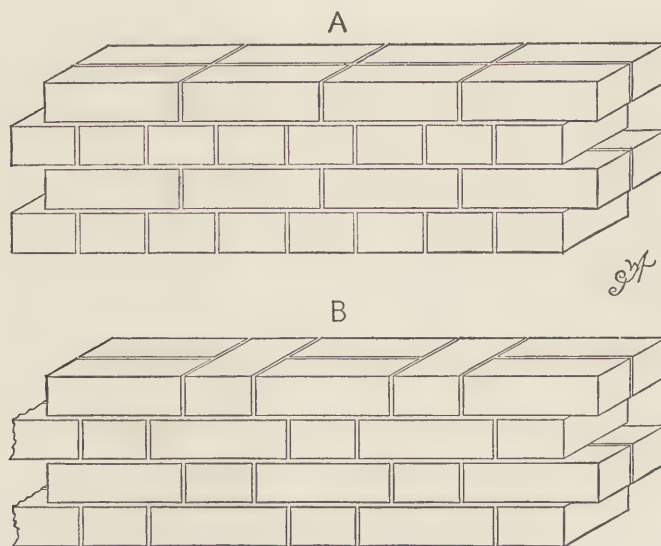
dans la construction de l'église Saint-Sernin de Toulouse. Cette partie du Languedoc étant à peu près la seule contrée de la France où la pierre fasse complètement défaut, les architectes des xiii^e et xiv^e siècles prirent franchement le parti d'élever leurs édifices en brique, n'employant la pierre que pour les meneaux des fenêtres, les colonnes, et quelques points d'appui isolés et d'un faible diamètre. Un des plus beaux exemples de construction du moyen âge, en brique, est certainement l'ancien couvent des Jacobins de Toulouse, qui date de la fin du xiii^e siècle. Plus tard, au xiv^e siècle, nous voyons élever en brique la jolie église fortifiée de Simorre (Gers), le collège Saint-Rémond et les murailles de Toulouse, des maisons de cette même ville, le pont de Montauban ; plus tard encore, la cathédrale d'Alby, grand nombre d'habitations privées de cette ville, les églises de Moissac, de Lombez, le clocher de Caussade, etc. Pendant la Renaissance, les constructions de pierre et brique mélangées jouirent d'une grande faveur ; on obtenait ainsi, à peu de frais, des parements variés de couleur, dans lesquels l'œil distingue facilement des remplissages les parties solides de la bâtisse. Les exemples de ces sortes de constructions abondent."*

After the departure of the Romans from Britain the art of brickmaking appears to have been almost abandoned for a long time. The Saxons and Normans certainly used bricks in some of their buildings, but they were chiefly obtained from the ruins of Roman structures, partially cleaned from the original mortar, and relaid. Roman bricks have been found in portions of the following buildings :—St. Albans abbey ; St. Martin's, Canterbury ; Brixworth and Barnack churches, Northamptonshire ; Dover castle church ; St. Botolph's priory, Colchester ; and in numerous other buildings. These are, however, mixed with other bricks in some cases, which are of a different kind and probably of later manufacture. At what date the manufacture of bricks was again actively commenced in England is undecided. There is an example of brickwork of the latter part of the thirteenth century at Little Wenham Hall, Suffolk. The walls of this building are mainly composed of bricks of different sizes, mixed with stone and flint courses in some parts. Mr. T. Hudson Turner, speaking of these, says :—“ These bricks are mostly of the modern Flemish shape, but there are some of forms and sizes bearing a general resemblance to Roman bricks or tiles. The colour of the bricks varies considerably.” From the beginning of the fourteenth century brick became a favourite material in all districts where stone was scarce and clay plentiful, and numerous fine examples have been preserved showing the skill of the mediæval builders in using it. The Eastern counties are peculiarly rich in remains of mediæval brickwork. At Layer Marney Hall, Essex, built in the reign of Henry VIII., moulded brick was largely used. Speaking of this building, Britton remarks :—“ The decorations on the summit, with those of the windows, cornices, &c., are made of a species of white brick, which was cast in moulds, in large and thick masses.”

* *Dict. Rais. de L'Arch. Française*, art. BRIQUE.

Although purely practical matters relating to building do not properly come within the defined limits of the present Work, we cannot close this brief article without speaking of the different modes in which brickwork is commonly bonded, and giving a few particulars relating to the dimensions of bricks used in different periods and countries.

The ordinary bonds are two in number, known as English or Old English bond, and Flemish bond. The former was used in this country previous to the reign of William III., but during his time the Flemish bond was introduced, and rapidly came into favour on account of its more pleasing and uniform appearance. In the accompanying diagrams the two methods are



represented. Fig. A is English bond, in which the courses are laid alternately headers and stretchers without intermixture. Fig. B represents the Flemish bond, in which every course is alike, laid with headers and stretchers alternately.

The following list gives the dimensions, in inches, of bricks used by builders at different periods :—

				Length.	Width.	Thickness.
EGYPTIAN BRICKS.						
PYRAMID AT ILLAHOON	...	...	...	16 $\frac{3}{4}$	8 $\frac{3}{4}$	5 $\frac{1}{2}$
PYRAMID AT DASHHOUR	...	...	...	16	8	4 $\frac{1}{2}$ to 5 $\frac{1}{2}$
OF THE REIGN OF THOTHMES III.	...	...	...	15 $\frac{1}{2}$	7	6
OF THE REIGN OF AMENOPH III.	...	...	...	11 $\frac{1}{2}$	6	4
BABYLONIAN BRICKS.						
SPECIMENS IN THE BRITISH MUSEUM	...	...	...	12 $\frac{1}{4}$ to 13	12 $\frac{1}{4}$ to 13	2 $\frac{1}{2}$ to 3 $\frac{1}{4}$

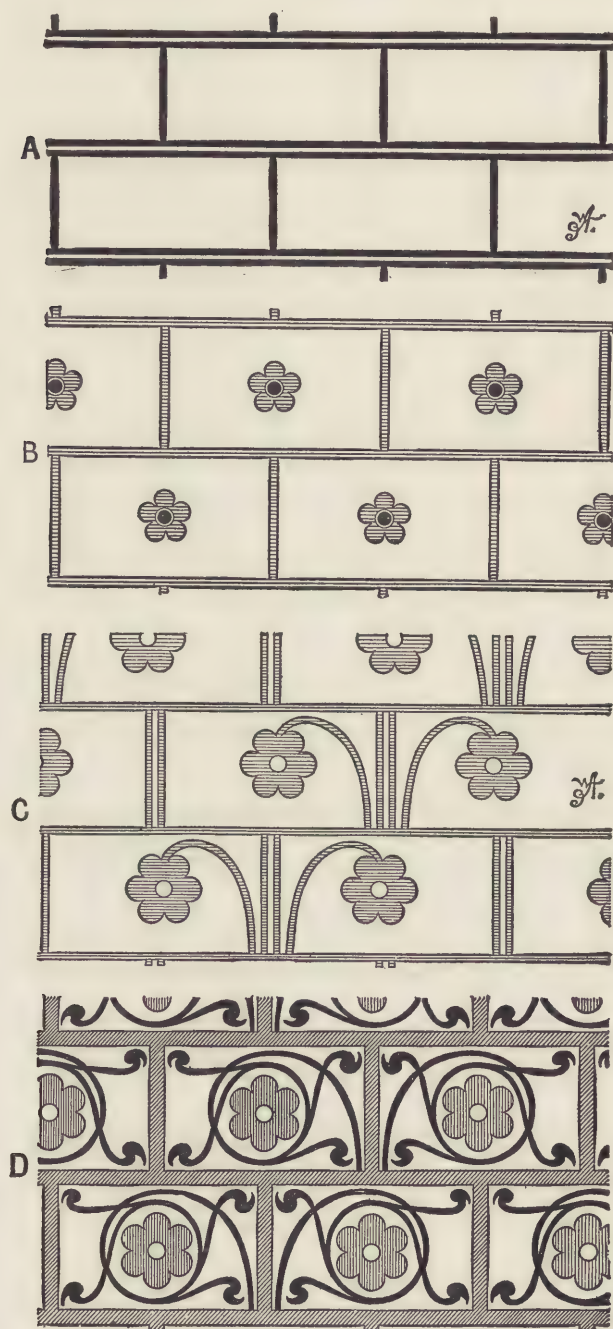
	Length.	Width.	Thickness.
GRECIAN BRICKS.			
PENTADORON, about	14½	14½	1½
TETRADORON, about	11½	11½	1½
ROMAN BRICKS.			
VILLA OF TIBERIUS, CAPRI	25 to 30	9	2½
ST. ALBAN'S ABBEY	18	12	1½
LONDON WALL	17½	11½	1½
AT TOULOUSE	14	9	1½
BATHS OF TITUS	8½	5	1½
FRENCH BRICKS.			
IN LANGUEDOC, 13th, 14th, and 15th centuries	13	9½	2½
IN THE BOURBONNAIS, 15th century ... {	9½	4½	1½
	8½	4½	2½
DUTCH BRICKS.			
ORDINARY	9½	4½	2
ENGLISH BRICKS.			
LITTLE WENHAM HALL, 13th century ...	9½	4½	2½
OF THE REIGN OF EDWARD II. ... {	10	5	2
	12	6	3
RED TOWER AND ST. MARY'S ABBEY, YORK, 15th century	10 to 10½	5	1½ to 2
THE "GREAT BRICK," 1734	12	6	3
THE "STATUTE BRICK," 1734	9	4½	2½

At the present time bricks are made in this country varying slightly in size, but none exceed 9 inches long, by 4½ inches wide, by 3¼ thick. The "stock brick" of the last century measures 9 by 4½ by 2¾; while that of the present time measures 8¾ by 4½ by 2½ inches.

For much valuable information, in a condensed form, relative to the manufacture and use of brick, our readers should consult the series of articles on the subject in the Architectural Publication Society's *Dictionary of Architecture*.

BRICK PATTERN. The modern name for the description of pattern much used by the artists of the twelfth and thirteenth centuries for the decoration of walls and vaults, chiefly consisting of a regular succession of horizontal and vertical lines imitating the jointing of brickwork. The lines were usually of some quiet deep colour upon a white or light buff ground; and, where richness was desired, the oblong spaces within the lines were relieved with a small flower or some simple conventional

scrollwork. The accompanying illustrations show the more characteristic



treatments. Patterns A and B, in slightly modified forms, are met with in numerous works. In the church of the Jacobins, at Agen (Lot-et-

Garonne), are thirteenth century examples, formed of double horizontal and treble vertical joint-lines, and of single horizontal and double vertical lines, both having their lines in red upon buff grounds. In the chapel of Notre-Dame-de-la-Roche (Seine-et-Oise), is a thirteenth century example, executed with white lines on a deep buff ground. In the remains of the abbey of Fonteneilles (Vendée), the brick pattern, formed of single horizontal and double vertical lines in red on buff, is found decorating the great pillars of the central tower, also of thirteenth century date. All the examples are without any ornamentation within the lines. Patterns C and D are from the walls of the presbytery of Norwich cathedral, paintings of the Early English period. In the former the lines and flowers are in dull red; in the latter the wide joint-lines are yellow, the scrollwork black, and the flowers red.

BRIDGE. The term correctly applied to a construction of stone, brick, wood, or iron, spanning a river, canal, road, or natural chasm, and on which a roadway is provided for traffic of any description. A bridge may consist of one or more arches, or of beams or girders resting on natural or artificial supports or piers, according to the nature of the materials employed in its construction. The only exception to these treatments is what is called a suspension bridge, which consists of a roadway suspended by iron rods from massive chains, of the same material, extending between lofty piers or pillars, and securely fixed at each end. Constructions, in the nature of bridges, carried to a considerable length across valleys or low-lying tracts of country, and used for traffic, are designated VIADUCTS, while those used for the conveyance of water are termed AQUEDUCTS.

Bridge building was practised by the ancient Egyptians, but probably to a very limited extent. According to Rossellini (*Monumenti Reali*), there was a bridge at Tsaru, or Tanis, in the reign of Seti I., or about B.C. 1350. In sculptures found at Thebes, executed about the same period, representing the fortified town of Katesh, on the Orontes, bridges are represented spanning the double ditches which surround the place. The construction of these bridges is, however, not indicated, for, as usual, no attempt is made at perspective in the representation.

Of the bridges of the Greeks we know very little, beyond the fact that they were simple in form and chiefly of wood. A long and firm bridge of wood was constructed, during the Peloponessian war, between Aulis and Chalkis, in the island of Eubœa. Remains of bridges formed of stone have been found, which show a construction of overhanging blocks or courses, gradually contracting the space between the piers, towards the top, which was ultimately spanned by long horizontal blocks of stone or beams of wood. Bridges prior to Roman times were not constructed on the principle of the true arch; accordingly all their stone bridges consisted of massive piers with small spaces between them.

The Romans were the first great bridge builders; indeed, their works in this direction still remain among the most remarkable structures of

antiquity. A striking instance exists in the viaduct at the ninth milestone from Rome, on the road to Gabii. It consists of seven arches springing from massive piers, and is about 285 feet long. It is attributed by Hirt to the time of the tribune Caius Gracchus (B.C. 124-121). Speaking of Roman bridges, Guhl and Koner remark:—"Where a stream had to be crossed, the arch naturally became of still greater importance. Bridges, moreover, seem to have been regarded almost like religious monuments. In the early history of the city of Rome, so closely connected with the Tiber, the bridges across that river were of such religious import that the care of them was assigned to a fraternity of priests (*pontifices*, i.e. bridge-makers), of which the highest college of priests in Rome was a further development. The name *Pontifex Maximus* remained attached to the office of high priest, and is at present that of the Pope. Although of great importance, the arch was not indispensable in Roman bridge-architecture. Not to speak of temporary bridges of boats, we mention permanent wooden bridges, such as the Pons Sublicius, the oldest bridge in Rome, and the bridge that Cæsar threw across the Rhine. In other bridges woodwork and masonry occur combined, as, for instance, in the splendid bridge built across the Danube by Trajan. It rested on twenty strong stone pillars, standing at distances of 170 feet, and connected with each other by wooden arches instead of stone vaultings. A representation of this bridge is seen on the column of Trajan."

The most important of all the Roman bridges still existing is that at Alcantara, in Spain. It consists of six arches, of different spans, supporting a level roadway of about 20 feet wide. Its total length between the rocks is about 650 feet. In the centre of the bridge is a small triumphal arch erected in honour of Trajan. The bridge is believed to have been constructed about the year A.D. 103.*

The most gigantic works of the Romans in the nature of bridges are their aqueducts; but for remarks on these we must refer our readers to the article *Aqueduct*.

During the earlier centuries of the middle ages few bridges of large proportions were constructed; but in the reign of Charlemagne the importance of bridge building was fully realised, and numerous bridges were included in the works of public utility undertaken by that monarch. The

* "Le pont d'Alcantara est fondé sur les rochers mêmes sur lesquels coule le Tage; il est composé de six arches, qui, suivant l'usage habituel des Romains, sont, ainsi que les piles, inégales de hauteur et de largeur. Sa longueur totale est de 199^m, 53, et sa largeur, compris les parapets, de 8^m, 04. Les crues, souvent très-considérables du fleuve, avaient nécessité de lui donner une très-grande élévation, de sorte que la voie ne se trouve pas à moins de 44^m, 55 environ au-dessus du niveau ordinaire des eaux. Les deux arches centrales, de beaucoup plus larges que les autres, présentent une ouverture prodigieuse, de 30^m, 55; leurs piles ont 8^m, 77 d'épaisseur. La décoration, entièrement empruntée à la construction et à l'appareil, est par conséquent d'une mâle simplicité. Sur la pile centrale s'élève l'arc de triomphe dont nous avons déjà parlé; c'est avec celui de Saintes, en France, un des rares exemples où ce genre de monument ait été construit au milieu d'un pont: comme ce dernier aussi, on en avait tiré parti au moyen âge pour la défense du passage."—T. Vacquer. Gailhabaud's *Mon. Anc. et Mod.*

important bridges constructed by the Romans still existed in good condition throughout France; these went far to meet the wants of the times, in which travelling was too difficult and dangerous to be frequently undertaken. Prior to the twelfth century, it is highly probable that the generality of the new bridges in France were constructed of wood, stone being chiefly used for repairing and sustaining the bridges of the ancient Romans; indeed, until long after this period timber bridges and those formed of boats were generally used. Paris had wooden bridges only up to the sixteenth century. These remarks practically apply to all the countries of Western Christendom.

During the latter half of the middle ages bridge building was considered a work of charity; and it was very usual for a bridge to be erected at the expense of several individuals, each one undertaking to supply the funds for the construction and maintenance of a single arch. In France and Germany bridges were often constructed under the direction of a religious body, as in ancient Rome, called the Bridge Brothers (*Frères Pontifes—Fratres Pontifices*), founded by Bénézet, the builder of the celebrated bridge at Avignon. The members of this body bore a white garment, on which a cross and a bridge were represented. Their duties were the building and repairing of bridges, the establishment of ferries, the foundation of hospitals on the banks of rivers, and the assistance of all travellers. The institution became extinct in the fifteenth century.

Mediæval bridges, when they were not fortified, presented no remarkable characteristics. They were usually designed with larger arches towards the centre, the piers being provided with sharp cutwaters, carried some distance up stream from the face of the bridge. From these cutwaters, and sometimes supported on corbels, projections were carried up to the roadway, forming recesses in which foot passengers could rest whilst the narrow roadway was being used by carriages or horsemen. The parapets of the bridge were of course carried round these projections. Sometimes the roadway was constructed level, or nearly so, but at others it rose very high over the loftier central arches. Bridges were frequently used for ceremonies and fêtes during the middle ages, notwithstanding the narrowness of their roadways. Chapels were in many cases erected upon bridges, commonly dedicated to the saint under whose protection those who navigated the river were believed to be placed. The chapel of St. Anne, on the bridge at Wakefield, and that dedicated to St. William, on the Ouse bridge at York, are familiar examples in this country. On the bridge of Avignon is the chapel erected in honour of its founder, who died four years previous to the completion of his great work. He was subsequently canonised, and his body interred in the chapel. On small bridges crosses or figures of saints were frequently erected.

The most important mediæval bridges which exist in anything like a complete state are those at Pont St. Esprit and Cahors. The former is a work of the greatest solidity, and of imposing proportions. It consists of nineteen water and four small land arches, supporting a roadway of

2,717 feet in length by 17 feet in width. The arches vary in size, the widest having a span of 108 feet; the piers, as in the generality of mediæval stone bridges, are pierced with round-headed flood-water archways. The bridge crosses the Rhône obliquely. This magnificent work was commenced in the year 1265, and completed in 1309, having been built by an associated brotherhood formed in St. Saturnin, the original name of the town, with stones brought by water from the quarries of St. Andéol. Funds were provided by subscriptions raised among the dwellers on both sides of the river, and by offerings made by the pious at a small chapel dedicated to the Holy Spirit, at one end of the bridge. This is the longest bridge known to have been erected during the middle ages.

The most interesting of all the mediæval bridges is probably that at Cahors, over the river Lot, a structure strikingly military in appearance. It was founded in the latter part of the thirteenth century by bishop Barthélemy. It consists of six lofty pointed arches, springing from massive piers, with plain angular cutwaters, carried up to the parapets. The arches increase in span and height towards the central pier, on which is erected a lofty gate-tower. At both ends of the bridge are other lofty and massive fortified gate-towers, constructed for the purpose of protecting the bridge and obstructing any forcible approach on the town.

The bridge at Avignon must not be overlooked, notwithstanding that only four of its arches remain. It was commenced in the year 1177, by the exertions (supposed to have been inspired) of a shepherd named Bénézet, and completed in 1188. It was originally about 1,375 feet long, and had eighteen or nineteen arches; all, save the few which exist, were swept away by the great flood of 1669. The remaining arches are semi-circular, and present a fine specimen of mediæval masonry. The entire work must have been singularly perfect to have withstood the floods of the Rhône for so many centuries. The river rises, at times, to the height of the crown of the arches.

The practice of erecting dwellings and shops on large bridges was frequent in the middle ages, and obtained up to the seventeenth century. The most memorable examples were probably Old London Bridge and the bridge of Notre Dame, founded in the year 1413. The latter is thus described by Robert Gayum :—" Il avait 70 pass et 4 pieds (115 mètres) de longueur, 18 pass (29^m 2) de largeur; il était supporté par dix-sept travées de pièces de bois; chacune de ces travées se composait de trente pièces de bois; chacune de ces pièces avait plus de deux pieds d'équarrissage . . . Il était chargé de soixante maisons, trente de chaque côté. Ces maisons se faisaient remarquer par l'élévation et l'uniformité de leur construction. Lorsqu'on s'y promenait, ne voyant pas la rivière, on se croyait sur terre et au milieu d'une foire, par le grand nombre et la variété des marchandises qu'on y voyait étalées. On peut dire, sans crainte d'être taxé d'exagération, que ce pont, par la beauté et la régularité des maisons qui le bordaient, était un des plus beaux ouvrages qu'il y eût en France."

On the "Grand Pont"* at Paris, besides the shops of the bridge merchants, were those of the money-changers, from whom in fact the bridge afterwards took the name of the "Pont-au-Change." Mills and factories, in whose operations, such as dyeing, scouring, &c., a large supply of running water was necessary, were erected on bridges. On the bridge of Bradford, in Wiltshire, a prison was placed, and a singing school is said to have existed on one at York.

The most remarkable mediæval bridge in this country is that known as the Triangular Bridge, at Croyland, Lincolnshire. The following particulars, from the pen of John Britton, will be read with interest. "The Triangular Bridge has always been considered a subject of curiosity, depending more upon the singularity of its form than upon any difficulty in its construction, or beauty in its architecture. No records are extant which enable us to discover under what abbot it was erected: taking its style, therefore, as a guide, we can only assign its building to the fourteenth century generally, at a period between the years 1303 and 1378. The situation of this bridge is on the west side of the abbey, at the confluence of three streams; the Welland, the Nyne, and the Catwater, or Catchwater-drain, which unite under it, and proceed hence through Spalding to the German Ocean. It consists of three arches rising from three several segments of a circle, each arch having three ribs, and the whole meeting in one centre. The forms of these arches are preserved externally, rendering its ascent and descent impracticable for carriages, and inconvenient for horses. At the south-west angle is placed a statue crowned, holding a globe in the right hand. The figure is much defaced, but these attributes are still visible. The origin and intention of the founder in the erection of this bridge are involved in obscurity. Although the present structure has no claim to a higher antiquity than the time of the first or second Edward, a similar structure existed as early as the year 943; for in a charter of Edred describing the boundaries of the abbey, an allusion is made to it under the title 'pons de Croyland triangularis.' If the statue above mentioned represents the founder, Ethelbald, (and to whom can it with greater propriety be attributed?) a bridge of a similar form must have been coeval with the foundation of the monastery."† In modern times bridge building has made great progress, but descriptions of modern bridges do not fall within the limits necessarily imposed in this work.

BRIGANDINE OR BRIGANTAYLE. A species of body armour, which derived its name from the troops called "brigans," an irregular class of infantry of the thirteenth century, by whom it is believed to have

* "Mercatores habitantes super Magnum Pontem, vendunt capistrum, lumbaria, ligulas, marsupia sive bursas, de coreo cervino, ovino, bovino, et porcino."—John de Garlande, *Dictionarius*, MS. Cotton. Titus, D. XX. (13th cent.)

† *The Architectural Antiquities of Great Britain*, vol. iv., p. 76. In this work an engraving of the bridge is given.

been first worn. Brigandine armour consisted of small rings or small and thin plates or scales of iron, sewed to a species of jacket, made of leather or strong linen, and afterwards covered with a thin padding and an outer cloth of some description, quilted throughout. Meyrick thus describes a specimen preserved in his own collection:—It is “composed of a great number of rudely-shaped plates of flat iron, quilted between two pieces of canvas, the exterior being of a sky blue colour, and the small cords which perform this operation are seen in straight and diagonal lines knotted together at their intersections outside.” The garment was commonly in the shape of a jacket with or without sleeves, but sometimes it assumed the form of a doublet with a skirt. When worn by important personages, the outer covering was frequently of fine leather, velvet, satin, or cloth of gold. The flexible nature of such armour doubtless brought it into favour, especially among foot soldiers and archers.

BROACH OR BROCHE. A term used by old English writers to designate a spire, apparently without any special reference to its design or mode of construction. It is evidently used in this common sense in the following passage:—“In one howres space y^e *broch* of the steple was brent downe to y^e battlementes.”¹ Modern writers on architecture have endeavoured to confine the term to such spires as rise directly from the walls of their towers without parapets and gutters, as at the churches of St. Mary, Stamford; St. Peter, Raunds; St. Deny, Market Harborough; St. Mary, Wollaston; St. Nicholas, Walcot; St. Mary, Ketton; St. Nicholas, Cottesmore; St. Peter, Aldwinkle; All Saints, Buckworth; St. Andrew, Ewerby; St. Mary Magdalene, Warboys; All Saints, Leighton Buzzard; St. Leonard, Loddington; and St. James the Apostle, Spaldwick.² These, with the view of distinguishing them from the spires which rise from behind parapets and angle pinnacles, are designated *broach spires*. For further remarks and illustrations see article *Spire*.

BROCAT OR BROCADE. A rich silk stuff, woven with ornamental patterns, thrown up with gold and silver threads; or a gold or silver tissue ornamented with floral, conventional, or other devices in coloured silks, in imitation of embroidery or needlework.³ It seems highly probable that at first the term was applied to stuffs ornamented with needlework, or embroidered by hand in some kind of pattern. In the inventory of the wardrobe of Edward IV., 1481, we find mention made of “cloth of gold broched upon satin ground,” and “blue cloth of silver broched upon

¹ The true reporte of the burning of the steple and church of Paules in London, Anno 1561.—*Archæologia*, vol. xi., pp. 76, 77.

² All these spires are illustrated in Wickes' *Spires and Towers of the Mediæval Churches of England*.

³ “BROCAT, Pannus auro contextus, Hispanis hodie *Brocado raso* vel *riço*, nostris *Brocard d'or*. Concil. Hisp. to. 4. pag. 192. *Panni auro contexti sive de Brocat dicti*.”—Ducange. *Glossarium*.

satin ground;" but these passages evidently allude to satin garments enriched with *appliqué* in gold and silver tissues. In an inventory of the wardrobe of Charles II., 1679, mention is made of "white and gold brocade," valued at 2*l.* 3*s.* 6*d.* per yard; this is evidently a woven material. During the eighteenth century "flowered brocades" were fashionable, and mention is often made of them. In the fifteenth and sixteenth centuries several of the foreign looms were celebrated for their textile fabrics, among which brocades, or stuffs of a similar nature, held a prominent position.



1

Their artistic treatment was very varied; but probably the most beautiful was that based on the pomegranate and disposed as a diaper. In Fig. 1 is

given a design of early sixteenth century date, which shows to what perfection this class of design was carried.

BROKEN COLOURS. The term used in the nomenclature of painting to designate colours which are produced by the combination of two or more dissimilar colours. Broken colours are strictly those which result from the admixture of the three primaries—blue, red, and yellow—in various proportions; but in art white and black pigments are largely used in their production. The secondaries—green, orange, and purple—are not usually classed as broken colours, although, theoretically, they are so. Broken colours are the most numerous of all the colours found in the works of nature; hence skill in the production and harmonious arrangement of such colours is absolutely essential in a great artist.

BRONZE. An alloy composed of copper and tin, with the occasional addition of certain other metals in small quantities. In the earliest times, bronze appears to have been invariably composed of copper and tin only, in different proportions, the alloys varying in colour accordingly. An antique sword, found in France, was proved on analysis to contain 87 parts of copper and 13 parts of tin; and an antique spring of bronze to be composed of 97 parts of copper and 3 parts of tin. It is believed that in later times zinc and certain other metals were added to render the alloy more fluid while in a melted state, and accordingly better suited for the production of works of art by casting. The remarks made by ancient writers on the subject are not to be relied upon, and what Pliny, in particular, says, must be accepted with the greatest caution. He particularises three varieties of the celebrated Corinthian bronze (*aes Corinthiacum*) of different colours. The first description was white, and contained a large proportion of silver; the second was of a bright yellow colour, produced by the introduction of gold; and the third was composed of equal proportions of the different metals. It is highly probable that Pliny was led away by the popular opinion, and that the much-valued Corinthian bronzes were nothing more than alloys of copper and tin, carefully refined, and skilfully proportioned to produce the different colours.* We have satisfactory proof of the possibility of this when we look at the bronzes produced by the Japanese metallurgists, which vary from a deep red to the colour of tin. But we must not overlook the fact that the precious metals have

* "In the ancient mode of casting metal two things come into consideration: the *mixing* of the bronze, the more refined technics of which flourished at an early period especially in Aegina and Delos, then for a long time at Corinth, but afterwards disappeared. Not only was the Corinthian brass itself sometimes of a bright and whitish, sometimes of a dark brown colour, and sometimes between the two, but there were also a variety of colours communicated to the metal; it is likewise difficult to deny that they knew how to give different shades of colour to different portions of a statue. In order to promote the fusion at casting, and the hardening of the cooled metal, tin was *almost* universally blended with the ancient bronze, frequently also zinc and lead. Secondly: the process of *casting* in moulds. As is also the case generally in modern times, the statue was embossed with wax on a fire-proof kernel,

been found, in considerable quantities, in ancient Japanese bronze. Next to the Corinthian alloys, a bronze called *hepatizon* was held in high repute by the ancient Greek artists: it appears to have derived its name from its colour, which resembled that of the liver. Delos was one of the earliest and most celebrated places for bronze casting; and the alloy produced there, called *aes Deliacum*, was held in high estimation before the Corinthian varieties and the *hepatizon* were commonly known. Aegina was also justly celebrated both for the excellence of its bronze and the works which were cast in its foundries. The alloy used was designated *aes Aegineticum*. Opinion appears to have been fairly balanced between the products of the different furnaces, for the distinguished sculptors Myron and Polycleitus held opposite opinions, the former preferring *aes Deliacum*, and the latter *aes Aegineticum*. Wherein the chief difference lay is not known, but probably it was in the colour. Plutarch appears to hint that the *aes Deliacum* was of a pale unpleasant tint, but says that its composition was not known when he wrote. *Aes Aegineticum* was probably of a deep gold colour. Pliny considers both varieties inferior to the *hepatizon*, which we may believe to have resembled the rich-toned bronze used by the *cinqe cento* artists. Modern authorities advocate compounds of three and four metals for useful bronzes; thus Dumas, in his invaluable work, *Chimie appliquée aux Arts*, recommends a mixture of 100 parts (by weight) of copper, 6 to 7 parts of tin, and 6 to 7 parts of zinc, which produces a bronze of a fine golden colour, highly suitable for artistic manipulation. Gmelin, in his *Handbook of Chemistry*, states that the best alloy for statues, which are to be subsequently gilt, is composed of copper 78·5 parts, zinc 17·2, tin 2·9, and lead 1·4; and for other castings the bronze should be composed of copper 91·25, zinc 5·50, tin 2·00, and lead 1·25.

Bronze is without doubt the earliest alloy used in the arts. The ancient Egyptians were thoroughly masters of its composition and conversant with its properties. On this subject Sir J. Gardner Wilkinson remarks:—"The skill of the Egyptians in compounding metals is abundantly proved by the vases, mirrors, arms, and implements of bronze, discovered at Thebes and other parts of Egypt; and the numerous methods they adopted for varying the composition of bronze, by a judicious admixture of alloys, are shown in the many qualities of the metal. They had even the secret of giving to bronze or brass* blades a certain degree of

above which a model of clay was laid on (called *λύδος*, also *χάρος*), in which were distributed pipes for pouring in the metal. The process was carried by the ancients to astonishing perfection, as well in the thinness of the metal as the purity of the cast, and the facility of the entire operation. However, they were not averse also to the joining of parts by mechanical or chemical means; the insertion of the eyes was usual at all times, as well as the addition of attributes in precious metals."—Müller. *Ancient Art and its Remains*, p. 346.

* "There is no direct proof of brass implements being known to the ancient Egyptians, and no analysis has yet shown the presence of zinc. I have a ring apparently of brass, but it is possible that gold is there used instead of zinc."—Sir J. Gardner Wilkinson. *The Man. and Cust. of the Anc. Egypt.*, vol. ii., p. 255.

elasticity; as may be seen in the dagger of the Berlin Museum, which probably depended on the mode of hammering the metal, and the just proportions of peculiar alloys. Another remarkable feature in their bronze is the resistance it offers to the effect of the atmosphere; some continuing smooth and bright, though buried for ages, and since exposed to the damp of European climates, and some presenting the appearance of *previous* oxidation purposely induced."

Although numerous small figures in bronze have been found which appear to indicate an early date, they unfortunately, from the absence of a king's name, do not give us any idea of the date in which the art of casting was introduced and practised. Wilkinson believes that it was known before the commencement of the 18th Dynasty, and that examples exist, probably of the time of Usertesen (about B.C. 2000) and Thothmes (about B.C. 1460). There are several interesting bronze figures in the British Museum, notably one, 10 inches high, representing a king. This statuette is, from the character of its head-dress, apparently of the 26th Dynasty (about B.C. 660 to 525). The ornamentation on the dress and round the neck is in silver, inlaid in lines.

In the earlier times the Greeks produced their statues and other works in bronze by means of the hammer; the different pieces, after being beaten into the proper shape, were joined together by mechanical means. After the Homeric times, working in bronze, as Müller remarks, "was brought to much perfection by means of two great inventions; first, that of casting in moulds, which is ascribed to a Samian master, Rhœcus, son of Phileas, and his son Theodorus; secondly, by means of the art of soldering, *i. e.*, a chemical junction of metals, in which Glacus of Chios, a contemporary of Halyattes, and probably a scholar of the Samian bronze-caster, acquired fame." The introduction of bronze-casting in Greece is believed to have taken place about the 35th Olympiad (B.C. 640). After the 50th Olympiad (B.C. 580), the formative arts made great progress, and the celebrated artists of Aegina, Delos, Argos, and other places, produced numerous important statues of gods, athletes, and heroes, in cast bronze. Only a very few small Greek bronzes of this period have been preserved to our day.* With the age of Pericles the giant artist Phidias appears. His fame was so great that all the leading artists of his time assembled under him at Athens; and, although he himself chiefly worked in gold and ivory, bronze casting made great advances under his directions.† After the 120th

* For a descriptive list of all the important antique bronze statues in existence, see Winckelmann's *History of Ancient Art*, London, 1881, vol. ii., pp. 77-83.

† "Many statues had been executed in bronze long before the time of Phidias; Phradmon, who lived prior to him, had already made twelve cows in bronze, which were carried away from Thessaly as booty, and erected at the entrance of one of the temples. We are informed by Pausanias, that in the earliest ages, before the flourishing days of art, figures in bronze were composed of separate pieces, fitted to each other, and fastened by nails,—as was a Jupiter at Sparta, the work of Learchus, of the school of Dipœnus and Scyllis. As this mode of casting statues was easier than the other, it continued to be practised even in later periods, of which

olympiad (B.C. 300) the art of bronze casting began to decline in Greece, and never recovered its earlier perfection.

The Etruscans were skilful casters in bronze, as Müller remarks:—"Brazen statues were very numerous in Etruria: Volsinii had about 2,000 of them in the 487th year of the city; gilded bronze statues also adorned the pediments; there were colossi and statuettes, of which latter a great number is still preserved."* Dennis, speaking on the same subject, says that in "the arts of casting and chiselling in bronze, the Etruscans were greatly renowned; and their statues in metal not only filled the temples of Rome, but were also exported to other lands. In truth the Etruscans have the renown of being the inventors of this art in Italy . . . Not only in the representation of life, but in instruments for domestic and war-like purposes, did the Etruscan metal-workers excel. Even in the time of Pericles, the Athenian poet Pherecrates sang of the Etruscan *candelabra*; 'and what testimony,' asks Müller, 'can be more honourable for Etruscan art than the words of the elegant-minded Athenian, Critias, the son of Callæschrus, a contemporary of Mys, who reckons as the best of their sort the Etruscan gold-wrought cups, and bronzes of every sort for the decoration and service of houses; by which we must understand *candelabra*, *crateres*, goblets, and even weapons."† The finest collection of Etruscan bronzes is that contained in the ninth chamber of the Museo Gregoriano, in the Vatican.

Bronze was much used by the artificers of Rome and Pompeii; the numerous beautiful objects found in the ruins of the latter town clearly prove the taste and skill its artists had acquired about the commencement of our era. The Romans borrowed much from the Greeks and Etruscans, and cannot be said to have in any way developed the art of casting in bronze.

During the middle ages, or, at all events, prior to the sixteenth century,

six Herculaneum female figures, of and under the size of life, are a proof; for the heads, arms, and legs were cast separately, and even the trunk is not a single piece. These pieces are not united by solder,—no traces of it having been discovered when they were cleaned,—but are joined by tenons, dovetailed in, which from their shape are called in Italy swallows' tails, *a coda di rondine*. The short mantle of these figures, which likewise consists of two pieces, a front and back, is joined on the shoulders, where it is represented as being buttoned. In this way the ancient artists strove to guard against defects, not easily avoided in casting whole statues by a single operation; they did however occur sometimes, and were subsequently filled up.

"The use of solder in antique figures, may be seen in the hair and free-hanging locks, which it was the practice, in the earliest as well as the most flourishing periods of art, to affix by such means. The oldest work of this kind, and one moreover of the oldest monuments of art, is a female bust in the Herculaneum museum at Portici. Upon the forehead, backwards to the ears, there are fifty ringlets, seemingly formed of a stout wire about the size of a writing-quill. They are soldered together in pairs, a long one and a short one together, and hang one over the other; each ringlet is composed of four or five spiral turns. The back hair is bound round the head in one tress, and forms as it were a diadem."—*Ibid.*, vol. ii., pp. 72-3.

* *Ancient Art and its Remains*, p. 150.

† *The Cities and Cemeteries of Etruria*, vol. i., pp. lxi., lxx.

working in bronze assumed no importance. Armour and weapons were almost exclusively made of iron or steel ; domestic articles of iron, copper, latten, and pewter ; and ecclesiastical vessels and ornaments chiefly of the precious metals or copper gilt. We must not, however, pass over the most notable example of middle age bronze casting which has been preserved to us, namely, the truly magnificent candelabrum preserved in the cathedral of Milan. This superb work was cast in the thirteenth century, but where and by whom unfortunately there are no records to enlighten us. The lower portion, or foot-piece, is formed of four winged animals whose tails terminate in rich conventional scrolls ; between the animals are masses of interlaced scrollwork, with small figures amidst the foliage. From this complicated foot-piece rises a richly ornamented stem, from which spring the seven branches, all most carefully and beautifully enriched with conventional leaves and masses of interlaced scrollwork. Of the figure subjects introduced the most important is the Adoration of the Magi. The height of the whole composition is about 19 feet 6 inches. A plaster reproduction of this fine candelabrum may be seen in South Kensington Museum. Another important example of thirteenth century bronze work is the font in the cathedral of Hildesheim. This is of a most elaborate character, clearly proving in every detail that its maker had a thorough mastery over the art of bronze working. For an illustration and description of this work see article *Font*.

Bronze casting was well understood in this country during the latter half of the middle ages, and several examples remain ; we may, for our present purpose, direct attention to the massive grille which surrounds the tomb of Henry VII., in his chapel at Westminster abbey, and to the effigies of Henry III. and Queen Eleanor in the Confessor's chapel.

For beauty of workmanship and delicacy of detail no works of the ancients have surpassed the bronzes of China and Japan. At what date the art reached its culminating point in either of these countries it is difficult to decide, but in all probability the simple processes of compounding and casting bronze were known in China at a very remote date. Progress in artistic treatment would follow the development of the other ornamental arts. If such was the case, we may naturally accept the culminating point somewhere about the middle of the fifteenth century. Japanese records cannot be relied on, but there appears little reason to doubt that the art of bronze casting was known as early as the eighth century, but no authenticated works of this period are known to exist. The most remarkable specimen of the bronze-caster's art in existence is the colossal seated statue of Buddha, at Kama Koura. This enormous work was executed in the thirteenth century ; it is sixty feet in height, and represents Buddha seated, with his knees doubled beneath him, in the usual position, upon the lotus flower, enjoying his *nirvana*. (See *Buddha*.) It has been commonly believed that the precious metals entered largely into the composition of Chinese and Japanese bronze, and we are informed, on good authority, that such has been proved to be the case so far as certain

specimens of Japanese bronze are concerned. A gentleman was importing a pair of bronze vases into America, and at the port of San Francisco a difficulty arose with the collector of customs with regard to the value of the vases. On communicating with the authorities, he received instructions to have them assayed, in order to arrive at the quantity of the precious metals they were supposed to contain. The result was that the bronze was proved to yield 1,500 dollars worth of gold and silver combined. We are unable to give the proportions of the alloy, not having the weight of the vases.

The artists of the Cinque-cento in Italy, and of the Renaissance period, generally, brought the casting of bronze to great perfection, restoring the art to almost its antique excellence. At this point we cannot do better than give the reader an idea of the process of bronze casting, as practised in the time of Cellini, and given in Wyatt's valuable *Metal Work and its Artistic Design* :—

“ When we inquire into the processes by which the fine bronze statues of the Cinque-cento period were produced we naturally recur to Cellini, who has left us such admirable descriptions of his practice. He tells us, that a model of the intended figure, prepared in brick-dust and plaster, mixed to the consistence of clay, of dimensions a little smaller than the real size, is placed on a grating in a deep pit, and thoroughly dried by lighting a fire beneath it. It is then covered over with sheets of modelling wax, of the exact *substance* which it is intended that the cast bronze shall exhibit, and perfectly finished up with modelling tools to the exact *surface* of the contemplated bronze statue. To this coating a number of sticks of wax are attached, all turning upwards, in order to serve as vents for the escape of the air, which must be forced out of the lower cavities of the figure on the admission of the metal to the mould; and which, if not allowed to escape, would obviously prevent the perfect filling up of the extremities. Another series of wax pipes is also arranged, attached to different parts of the figure, and also to the main channel along which the molten metal is destined to pass, the object of which is to facilitate the speedy transmission of the bronze to all parts of the figure. According to the difficulty of the subject, a greater or less number of rods and pegs of bronze are then driven through the wax into the core, and are allowed to project sufficiently to tail into the outer mould, and thus serve, when the wax shall be withdrawn, to steady everything. The whole of the waxwork is then brushed over with a mixture of clay and old white crucibles, mixed to a state of cream, and is gradually coated over to some thickness; to this succeed layers of earth, clay, and different ingredients, the last coating being bound round with iron ties, &c., in order to make the mould sufficiently strong to contain and support the great extra weight of the molten metal. The mould is then dried, and fire being made underneath and around it, the whole is baked together; the wax is of course liquefied by the heat, and is allowed to run off through channels made for its escape, leaving, therefore, a vacant space between the outer and inner moulds. The channels being filled up with fire-clay, the bronze is melted in a furnace, the bottom of which is slightly higher than the top of the statue; and when the bronze is perfectly liquefied it is ‘tapped,’—that is, allowed to run into the conduit which conveys it to the figure. From hence it rushes into the space formerly occupied by the wax, driving the air and gases evolved up the funnels provided for their escape. After the mould is perfectly filled it is allowed to cool, and then the outer casing is broken up, the core, as far as possible, removed, any imperfections in the casting repaired, and all the delicate details worked up, chased, matted, punched, or burnished, at the discretion of the artist. In very large works a different process is

adopted: what is called a piece-mould, or movable mould,—*à bon creux*, as the French term it, is formed on the finished clay or plaster statue; each piece of this mould is then lined with sheet-clay, and put together; it is then filled up with coring stuff, from which, as soon as it is sufficiently set, the external mould is taken away bit by bit. The sheet-clay is then removed from each piece separately, and the mould *à bon creux* is built up over the core, leaving, of course, an interstice between the inner and outer moulds, equal to the thickness of the sheet-clay. Provision being made for the admission of the metal, for the escape of the air and gases, and for the stability of both the moulds, by passing iron rods and ties in all directions, the casting is effected in an exactly similar mode to that already described. It is usual, in all small objects, to give a factitious colour to the bronze, by first heating and then immersing it in different liquids, technically termed pickles."

For the processes of casting in bronze at the present day, and for pertinent remarks on bronze-work and the principles of its treatment the reader should consult Mr. Wyatt's book.

BRONZE POWDER. A fine and soft lamellated powder, prepared in imitation of gold dust, and much used by chromo-lithographers in representing gold, and by painters in imitating bronze-work. This material was for a long time manufactured only on the continent, and chiefly at Nuremberg; and considerable secrecy was observed regarding the details of its manufacture. It is composed of tin, mercury, sulphur, and muriate of ammonia. A rich gold-coloured bronze powder may be formed of fine grain tin 12 oz., mercury 6 oz., sulphur (flower) 7 oz., and muriate of ammonia 6 oz. Bronze powders are now manufactured in a great variety of shades, from a pale gold to a deep copper.

BROOCH. An old term in art, used to designate a painting executed in tones of one colour, such as would be employed in representing a basso-relievo in marble or a carving in wood. In costume, the term designates an ornamental fastening for a garment, in which a pin or *broche* is fitted.

The brooch (*Lat. Fibula*) is an ornament of great antiquity, although it does not appear to have been common among the Egyptians; their garments were so worn as to dispense with such a fastening. Both the ancient Greeks and Romans wore brooches of different forms, and frequently of great beauty and value. "Women wore the fibula both with the amictus and the indutus; men wore it with the amictus only. Its most frequent use was to pin together two parts of the scarf, shawl, or cloak, which constituted the amictus, so as to fasten it over the right shoulder. More rarely we see it over the breast. The epithet *ἐτερόπορος* was applied to a person wearing the fibula on one shoulder only; for women often wore it on both shoulders. . . . The splendid shawl of Ulysses, described in the *Odyssey* (xix. 225-231), was provided with two small pipes for admitting the pin of the golden brooch; this contrivance would secure the cloth from being torn. The highest degree of ornament was bestowed upon brooches after the fall of the western empire. Justin II., and many of the emperors who preceded him, as we perceive from the portraits on their medals, wore

upon their right shoulders fibulae, from which jewels, attached by three small chains, depended. It has been already stated that women often wore the fibula on both shoulders. In addition to this, a lady sometimes displayed an elegant row of brooches down each arm upon the sleeves of her tunic, examples of which are seen in many ancient statues. It was also fashionable to wear them on the breast; and another occasional distinction of female attire, in later times, was the use of the fibula in tucking up the tunic above the knee."* These ancient brooches were formed of bronze, gold, or silver; and consisted usually of a pin attached or hinged to a curved piece, which was ornamented with various devices: circular brooches were also common. The skill of the Etruscan jewellers is too well known to require comment in this place; but we may remark, that it was exerted to the uttermost in the formation of brooches, as the superb examples preserved in the Museo Gregoriano, in the Vatican, fully attest. These are of the most delicate filagree work and exquisite design; they were found in the Regulini-Glassi tomb at Cervetri, at Vulci, and other sites in Etruria. Others of great beauty adorn the Campana collection at Rome. Speaking of the objects of jewellery in this collection, Dennis remarks:—"But the most marvellous specimens of Etruscan skill in metallurgy are perhaps shown in two circular brooches, a little head of the horned Bacchus, and an exquisite fibula, with an Etruscan inscription,—all of wrought gold; the latter rivalled only by the imperial one in the possession of Thomas Blayds, Esq., of Englefield Green."

Brooches, in the precious metals, set with jewels or enriched with coloured enamels, fabricated by the skilful goldsmiths of Byzantium, were highly prized all over Christendom. Several brooches, of great interest, have been found in our islands, which are evidently of Saxon art, and prove the skill of our native jewellers. Perhaps the most remarkable is that known as the "Tara brooch," found in Ireland: a very richly enamelled one, surrounded by a high edging of filagree, was found in Thames Street, London, in 1839;† and another, in filagree and enamel, known as the "Hamilton fibula," is preserved in the British Museum. It is said to have been found in Scotland.

During the middle ages brooches were made of great richness, and were chiefly worn by nobles and ladies for fastening their mantles, or, when of small size, the plumes in their hats. The most important works of the mediæval goldsmiths, in this direction, were the morses, used by the priests for fastening the cope; these were usually of a large size and of elaborate workmanship. (See article *Morse*.)

BROWN. One of the semi-neutral colours which have black for their basis. Field thus correctly describes this colour:—"The first of the semi-neutrals is BROWN, which, in its widest acceptation, has been used to

* James Yates, M.A., F.R.S., in *Dict. of Gr. and Rom. Antiq.*

† Illustrated in the *Archæologia*, vol. xxix.

comprehend vulgarly every denomination of dark broken colour, and, in a more limited sense, is the rather indefinite appellation of a very extensive class of colours of warm or tawny hues. Accordingly we have browns of every denomination of colours except blue; thus we have yellow-brown, red-brown, orange-brown, purple-brown, &c.: but it is remarkable that we have, in this sense, no blue-brown, nor any other coloured-brown, in any but a forced sense, in which blue predominates; such predominance of a cold colour immediately carrying the compound into the class of grey, ashen, or slate-colour. . . . The term *brown*, therefore, properly denotes a warm broken colour, of which *yellow* is a principal constituent: hence brown is in some measure to shade what yellow is to light, and warm or ruddy browns follow yellows naturally as shading or deepening colours. . . . The wide acceptance of the term brown has occasioned much confusion in the naming of colours, since broken colours in which red, &c., predominate have been improperly called brown; and a tendency to red or hotness in browns obtains for them the reproachful appellation of *foxiness*. This term, brown, should therefore be confined to the class of semi-neutral colours, compounded of, or of the hues of, either the *primary yellow*, the *secondary orange*, or the *tertiary citrine*, with a black pigment; the general contrast or harmonising colour of which will consequently be more or less purple or blue.

“Brown is a sober and sedate colour, grave and solemn, but not dismal, and contributes to the expression of strength, stability, and solidity,—vigour, warmth, and rusticity,—and in minor degree to the serious, the sombre, and the sad; not with the painter only, but also with the rhetorician and poet.” In ancient times brown appears to have been regarded as a sign of mourning; and during the middle ages it was accepted as symbolical of humility and renunciation; with some such significance it was, in all probability, adopted for the colour of the garments of certain religious orders.

BROWN OCHRE. A strong dark-coloured yellow ochre, resembling Roman ochre; a valuable pigment both in water and oil, producing useful and permanent tints.

BROWN PINK. A lake, or vegetable pigment, of a yellow-brown colour, formed by precipitating the colouring matter of French berries, or a decoction of dyeing woods. It is a rich transparent colour, and works well both in water and oil, but it is not permanent.

BRUNSWICK GREEN. A copper green, of considerable depth and richness; it is a basic chloride of copper, prepared by subjecting the metal to the action of sal-ammoniac. The ordinary Brunswick green of commerce consists of the carbonate of the oxide of copper and a calcareous earth. It is used in oil, but does not retain its brightness when exposed. This pigment closely resembles *mountain green*.

BUBATA OR BUATA. A late Latin term for a vaulted chamber or crypt, and apparently sometimes also applied to an arch or arched recess.¹

BUCENTAUR. In classic art, a fabulous animal having the body of a bull and the upper portion of the body of a man. The name was given also to the great state galley in which the doge and senate of Venice sailed during the ceremony of the "Marriage of the Adriatic."

BUCKLER. (*Fr. Rondache.*) A description of shield, of small dimensions, held in the left hand, and easily manipulated so as to ward off and frequently break an adversary's sword. The buckler is evidently of considerable antiquity, and continued in favour until the latter part of the middle ages. In the reign of Edward I. there were schools in which its use was taught.² The buckler varied both in its size and form. The most usual shape, however, was circular, with a raised boss in the centre, across which, on the inside, was the handle by which it was held. In some instances rings of steel were fastened by short supports from the surface of the buckler, and sometimes a hook projected from the boss; these adjuncts were intended to catch and break an adversary's sword; the hook was also used to suspend the buckler to the belt when not required for defence. Square or other shapes, with curved or wavy surfaces, were common in Germany. The buckler varied in dimensions from about a foot to eighteen inches in diameter. M. Viollet-le-Duc gives an interesting illustration of one about a foot in diameter, furnished with the projected rings and hook.³

BUCRANIUM. (*Lat.*) The term commonly used in architecture to designate the skull or head of an ox, sculptured as an enrichment on any portion of a building. An example of the introduction of the front of the perfect head, the horns suspending festoons of leaves and fruit, occurs on the frieze of the temple of Vesta, at Tivoli; and examples of skulls, on the friezes of the temples of Fortuna Virilis, and Jupiter Tonans, at Rome. In the former the horns carry the ends of festoons of leaves; in the latter

¹ BUBATA, f. Locus confornicatus, ab Hispano *Bobeda*, Fornix, camera. Marten. Tract. de Rit. pag. 452. ex Miss. Mozar. *Et vadunt per Bubata ad chorum.*—Ducange. *Glossarium.*

² "In the fifteenth and sixteenth centuries, sword and buckler play was enjoined by the authorities, and Stow records that the apprentices and youths of London were permitted, on holidays and after evening prayers on Sundays, to practise this exercise before their masters' doors. The buckler was hung at the girdle over the sword, and the bullies and 'fire-eaters' of that period were frequently called 'swash-bucklers,' from the noise made by the clashing of the sword against the buckler. The buckler was superseded by the introduction of the new fashion of fencing with rapier and dagger, which Stow tells us was in the year 1578. . . . The small buckler, called a 'roundel' (*rondelle a poing*) was occasionally, however, still used in lieu of the dagger, and swords and bucklers were carried by serving-men in attendance on their masters during the first half of the seventeenth century."—Planché. *Cyclopædia of Costume.*

³ *Dictionnaire Raisonné du Mobilier Français*, vol. vi., p. 247.

the skulls are introduced along with the several instruments used in the sacrifices. The origin of the introduction of the bucranium is here rendered obvious; it is clearly an emblem of sacrifice. The ornament has been copied in modern works simply because it was adopted by the ancients; but it is obviously out of place so soon as its symbolical signification is inappropriate or ignored.

BUDDHA. The founder of the ancient religion which was called after him. Satisfactory historical data connected with this personage are not easily arrived at, and his identity appears to be frequently lost amid succeeding disciples. "According to Abel Remusat, who cites the Japan Encyclopedia, in the *Journal des Savans*, Jan., 1821, Buddha, whose historical name was Tshakia-muni, was born under the reign of Tshao-wang, of the dynasty of Tsheu, 1029 B.C., and died under the reign of Mou-wang, 950 B.C. Before his death, he intrusted his disciple Mahakaya, a Brahmin in the kingdom of Makata, which lay in the centre of India, with his mysteries. This Mahakaya, who lived under Hio-wang, 950 B.C., is the first saint or patriarch of Buddhism, which was left by him to his successor, Ananta. The Japan Encyclopedia enumerates thirty-three patriarchs, including Mahakaya, in chronological succession, each of whom chose his successor, and transmitted to him the secret doctrine of Tshakia-muni, who was afterwards worshipped as a god, under the name of Buddha. Several of them died (or, to use the language of the Buddhists, emigrated) voluntarily in the flames. Among them, Maming, the successor of Buddha (by the Chinese called *Phu-sa*; in Sanscrit, *Deva-Bodhisatua*), who gave names to the gods of the second class, was worshipped as his son, born from his mouth, because he perfected the doctrine of Buddha by his own philosophy, which is a metaphysical allegorical mysticism. His epoch must be fixed, according to the above-mentioned work, in 332, under the reign of Hian-wang, 618 years after the death of Tshakia-muni. The twenty-eighth patriarch, Bodhidharma, was the last who lived in Hindostan. He afterwards fixed his residence in China, near the famous mountain Sung. He died A.D. 495. The secret of his doctrine was left by him to a Chinese, who was the twenty-ninth patriarch. After him, the above-mentioned book gives the names of four Chinese, who succeeded to the same dignity. The last of them died A.D. 713. Their history, like that of many other saints, is mixed with fables: their manner of living was the same as what the ancients report to us of the Gymnosophists and Samaneans. They devoted themselves to religious exercises and constant contemplation, and condemned themselves to the most severe abstinence; nay, several of them, as we have mentioned, sealed their belief in the transmigration of souls with a voluntary death."*

According to other writers, a different version is given, which may be

* *The Popular Encyclopedia, or, Conversations Lexicon.*

rendered, in short, thus:—In remote ages, of which only fables and absurd tales are told, there lived three Buddhas, called Kakusanda, Konagamma, and Kasyapa; of these personages nothing is known. The fourth, or historical Buddha, Tshakia-muni or Sinha (Gautama Buddha), was born near the foot of the Himalaya, in the year B.C. 623. He is believed to have been the last lineal descendant of a line of kings who had ruled over the great valley of the Ganges for about two thousand years. In early life, the youth appeared in no respect remarkable, but at the age of thirty-five he “attained to Buddhahood” (in the language of his followers), and from that age until his death, in B.C. 543, he spent his life in contemplation and in wandering about India teaching his doctrines. In Gautama Buddha, the true Buddhist recognises a manifestation of the Deity, and he expects a fifth manifestation in the person of Maitri Buddha, who is believed to be now progressing through the transmigrations necessary to the elevation to Buddhahood. It is, according to this, around Tshakia-muni, the fourth Buddha, that all the known religious art of the Buddhists revolves.

Oriental artists have reached a high standard in their representations of Buddha. A description of the most remarkable statue of him which, in all probability, was ever executed, from the pen of Mr. J. J. Jarves, the talented writer on art, cannot fail to be interesting here. “The highest use,” says Mr. Jarves, “to which the art of the Orient has ever put the human figure is very happily exemplified in the statue of Daiboudhs at Kama Koura, in Japan, more than six centuries old; a bronze effigy of Buddha sixty feet in height, sitting with his knees doubled beneath him on the customary lotus flower, forming a colossal statuesque whole of severe grandeur, and even majesty, combined with extreme simplicity of appearance and treatment. The great Hindoo reformer is enjoying his *nirvana* or the ecstatic disregard of outward things which he held out to his disciples as their final compensation for various probatory reincarnations on the earth and having extirpated every feeling which unites the heart to the world and its fleeting pleasures and illusive hopes. Absorbed in the Eternal Soul, and forming an integral part of it, yet according to some believers conserving a complete individuality, whilst others hold to its entire loss, in either case the soul no longer suffers changes or modifications of its everlasting beatitude. Christian Art presents no motives equally abstract and destructive to all the common forms of human self-consciousness. In every example we find absolute individuality, active or passive, but positive of some degree. But in Daiboudhs there was to portray a human face reflecting a sentient soul absorbed in its own impassive bliss, having attained to all knowledge, yet disclosing none of it, baffling all enquiry into the unknown, and promising as consolation for all personal ills a like impersonal happiness, or else an absolute annihilation, just according to the interpretation each believer gave to this spiritual riddle. The artist has met with no common success in dealing with so mystical an idea. Retaining the general characteristics of the

human model, largely and majestically conceived, he has constructed this gigantic statue, which, while suggesting man, inspires less awe from its massive severity of form than its inscrutable calm and measureless distance from mundane interests and cares. Whether as an immense idol for the unlettered, or an elegant symbol for the uncultivated, it is wonderfully impressive. Long wave-like ripples of drapery flow over its shore-like limbs; a head-dress of shells forms an effective ornament, whilst the broad contours and masses, and the unspeakable repose and benediction which illumines its every feature, each and all harmoniously unite into a stupendous image of intensified enigma. . . . Various expressions," continues this writer, "are given to the Buddhas, but all reflecting this supreme repose and joy in *nirvana* as the finality of many wearisome incarnations in flesh, undergone to attain thorough purity of soul by personally overcoming every earthly passion and weakness. It is at once seen that the Oriental sculptor, in obedience to his abstract motive, was obliged virtually to reverse the practice of his Grecian brother. He tried to make men god-like on the physical and intellectual plain of well understood human constitution. The former proposed to himself the more arduous task of sinking both into an abstract spiritualisation, negating all merely human faculties and ambitions and creating an ideal form which should suggest a consummate, perfected bliss, destitute of every earthly taint or reminder." So much for sculptured representations of Buddha. In painting he is depicted with the same expression of mysterious unfathomable contemplation, seated or standing on the lotus flower, and attended by figures of gods and demons, or surrounded by his saintly disciples and priests. One of the most remarkable subjects met with in Buddhist art is the "Death of Buddha." In paintings of this event, Buddha occupies the centre of the composition, lying at full length on an elevated platform, under the shade of lofty sarras trees; his face wears the expression of passionless rest—he has entered into his *nirvana*. Around him are congregated his disciples and numerous figures of gods, the former lamenting and weeping. In the foreground are animals, fabulous and natural, birds and insects, apparently congregated to honour and mourn the departed saint. Above the trees, figures descend from the clouds as if to join the earthly band of mourners, for the principal figures are weeping.*

BUDDHIST ARCHITECTURE. The style of architecture which was developed in India under the influence of the Buddhist religion, which assumed activity during the sixth century before Christ. The

* We give this brief description from a large hanging painting, now before us, but which used to hang on the back wall of the shrine of the temple of Han-gu-an-ji, at Kioto, in Japan. It is probably one of the most important specimens of the Japanese Buddhist school of painting in existence. It belongs to Professor C. E. West, of Brooklyn, New York. Siebald gives an outline drawing of the "Death of Buddha" in his valuable work on Japan, which resembles this painting in all essentials.

religion did not become firmly established as that of the state until about B.C. 250, and it was after this period that Buddhist architecture, as it is now known, had its rise. That it was a great development of an earlier style of building is highly probable, but no works of this style have been discovered. Buddhist architecture reached its culminating point in the earlier centuries of our era. (See *Indian Architecture*.)

BUFFET. (*Fr.*) An article of furniture, consisting of a table above which narrow shelves are placed. It was, during the middle ages, an important object in the banqueting hall, and was frequently of elaborate and tasteful design. It was placed in any part of the floor of the apartment most convenient at the time, not being, like the mediæval dresser (*dressoir*), placed against a wall. The remarks on this term by M. Viollet-le-Duc are so exhaustive that we here append them:—"On entendait par ce mot, pendant le moyen âge, la chambre où l'on renfermait la vaisselle, des objets précieux tels que vases, bijoux, curiosités; on donna aussi, pendant les *xiv^e* et *xv^e* siècles, le nom de buffet au meuble que l'on plaçait, pendant les repas de cérémonie, au milieu de l'espace réservé entre les tables en fer à cheval, et sur lequel on rangeait des pièces d'orfèvrerie, des épices et confitures, comme sur des gradins. Le dressoir est un meuble servant au même usage, mais ordinairement appliqué contre le mur; tandis que le buffet est isolé, on tourne autour, il pare le centre de la salle du festin. C'est surtout pendant le *xv^e* siècle, alors que le luxe intérieur atteignit des proportions extravagantes, que les buffets furent en grand usage. A cette époque, le mot *buffet* indique nonseulement le meuble, mais tous les objets dont on le couvre; on dit buffet pour exprimer l'ensemble de ces décorations de fêtes. Aux entrées de souverains, d'ambassadeurs, on offre un buffet, c'est-à-dire qu'on donne au personnage auquel on veut faire honneur un amas de vaisselle d'argent ou de vermeil contenant des rafraîchissements; et, dans ce cas, le meuble et ce qu'il porte appartient audit personnage.*

The term is now commonly used with two significations; namely, for a side-table on which refreshments are placed, and for a refreshment-room, such as those in the stations on the continental railways.

BUHL OR BOULE WORK. A species of decorative work, which derives its name from its inventor, André Charles Boule, a talented decorative artist of Paris, who died in the year 1732 at the advanced age of ninety. Buhl work is usually formed of two dissimilar materials, one of which serves as a ground for ornamentation executed in the other. Boule commonly adopted thin plates or veneers of deep-coloured tortoise-shell as his grounds, piercing them with the requisite spaces to receive the ornamental devices which were cut from sheets of brass or silver. His designs were of a tasteful flowing character, and proved very effective by the con-

* *Dict. Rais. Mobil. Français*, vol. i., p. 39.

trast of the materials in which they were executed : he frequently enriched the metal work with engraving. The furniture made by him or under his direction was highly esteemed at the court of Louis XIV. He held the official situation of *Tapissier en titre du Roi*.

BULBOUS. In architectural nomenclature, this term is applied to domes or spires which assume more or less the shape of an ordinary vegetable bulb, such as that of the common onion. Fine specimens of bulbous domes exist in Indian Saracenic architecture, as at the great mosque at Delhi, and the Taj Mahal at Agra. In Persian Saracenic architecture they are introduced in very pronounced forms, as in the college or madrisa of Sultan Husein, at Ispahan. Bulbous domes are used in great profusion in Russian buildings, as at the church of Vassili Blanskenoy, and the belfry of Ivan Veliki, at Moscow, and the church of Novogorod. In Italian architecture the bulbous dome shows itself on certain campaniles at Genoa, Ventimiglia, and Venice. A polygonal example exists in the cathedral of Trent. Small bulbous domes terminate the great domes of the cathedral of St. Mark, at Venice. In Switzerland, Germany, and Flanders, the coverings of lanterns and towers frequently are bulbous in form ; sometimes two or more bulbs are placed one above the other, decreasing in size.

BULL. This animal was worshipped by the ancient Egyptians. The origin of the worship is believed to have been the acknowledged utility of the bull in agricultural operations. Clemens considers it not only the type of agriculture, but that of the fertile earth itself. In all probability some such feeling originally led the Egyptians to select the bull as the emblem of Osiris, who was the abstract idea of all that in nature was beneficial to mankind. Sir J. Gardner Wilkinson observes :—“ Osiris was also worshipped under the form of Apis, the sacred bull of Memphis, or as a human figure with a bull's head, accompanied by the name ‘ Apis-Osiris.’ According to Plutarch, ‘ Apis was a fair and beautiful image of the soul of Osiris ;’ and the same author tells us that ‘ Mnevis, the sacred ox of Heliopolis, was also dedicated to Osiris, and honoured by the Egyptians with a reverence next to that paid to Apis, whose sire some pretend him to be.’ This agrees with the statement of Diodorus, who says, Apis and Mnevis were both sacred to Osiris, and worshipped as gods throughout the whole of Egypt ; and Plutarch suggests that, from these well-known representations of Osiris, the people of Elis and Argos derived the idea of Bacchus with an ox's head ; Bacchus being reputed to be the same as Osiris.” *

Turning to Assyrian art, we find the bull to have been largely introduced in sculptured works, but differing materially from the treatments

* For further particulars regarding the bull god Apis, see *The Man. and Cust. of the Anct. Egypt*. New Edition (1878), vol. iii., p. 87.

found in Egyptian art. While the latter represented the animal in its natural form, or its head only on the body of a man, the Assyrians invariably represented the animal as man-headed and winged. It has not been satisfactorily settled what was the intention of such compound forms. Mr. Layard has conjectured that the man-headed and winged figures of the bull and the lion were intended as incarnations of the "Idea of Supreme Power;" and there are doubtless good arguments in favour of the supposition. He says:—"What more noble forms could have ushered the people into the temple of their gods? What more sublime images could have been borrowed from nature by men who sought, unaided by the light of revealed religion, to embody their conceptions of the wisdom, power, and ubiquity of a Supreme being? They could find no better type of intellect and knowledge than the head of a man; of strength than the body of a lion; of ubiquity, than the wings of a bird." We know enough of the ancient religions and their symbolism, to view the Assyrian bull not only as the emblem of strength, wisdom, and ubiquity, but as the direct expression of creative power; and this latter idea was probably connected with astrology. The sun formerly entered the sign of the bull (*Taurus*) at the vernal equinox, thus beginning a new season when the earth put forth its creative powers. Mr. R. Payne Knight, a writer whose authority on matters of ancient symbolism few will question, speaking of the bull, remarks:—"Among the sacred animals of the Egyptians, the bull, worshipped under the titles of Mnevis and Apis, is one of the most distinguished. The Greeks called him Epaphus, and we find his image, in various actions and attitudes, upon an immense number of their coins, as well as upon some of those of the Phœnicians, and also upon other religious monuments of almost all nations. The species of bull most commonly employed is the urus, auroch, or wild bull, the strongest animal known in those climates which are too cold for the propagation of the elephant; which was not known in Europe, nor even in the northern or western parts of Asia, till Alexander's expedition into India, though ivory was familiarly known even in the Homeric times. To express the attribute strength, in symbolical writing, the figure of the strongest animal would naturally be adopted; wherefore this emblem, generally considered, explains itself, though, like all others of the kind, it was modified and applied in various ways. The mystic Bacchus, or generative power, was represented under this form, not only upon the coins, but in the temples of the Greeks: sometimes simply as a bull; at others, with a human face; and, at others, entirely human except the horns or ears."

In Greek art we meet with the Bucentaur, an ideal monster, half bull and half man; and in Greek mythology with the Minotaur, in all probability only the ancient symbol of the bull partly humanised. The bull has, in all the periods of classic art, exercised the skill of the sculptor and bronze-caster.

In Christian art, the bull is the attribute of St. Sylvester, P.C., and St. Regnier, C. St. Eustachius, M., suffered death by being burnt within a

bull of bronze; the figure of this bull, with an opening in its side, is accordingly the attribute of this saint. A wild bull is the attribute of St. Saturninus, B.M., who was dragged to death by a furious animal; of St. Marciana, V.M., who was gored by one; of St. Blandina, V.M., who suffered death by being tossed by one; and St. Pelagia, V.M., who was burnt in a brazen bull. St. Thecla, V.M., is sometimes represented as being dragged by bulls, in commemoration of her persecution and sufferings.

BULLA. (*Lat.*) In ancient costume, a golden ornament, commonly of a circular form, worn in early times only by the children of the patricians, but later on by all of free birth. It was a species of amulet, borrowed by the Romans from the Etruscans, as Juvenal tells us (*Sat. v.*):—"For who is so utterly destitute as twice to bear with his insolence, if it has been his good fortune, when a boy, to wear the *Tuscan gold*,* or even the boss, the badge of leather, that emblem of poverty." Persius (*Sat. v.*) informs us that the bulla was laid aside, with the *prætecta*, when the youth entered the period of manhood, and that it was consecrated to the Lares:—"When first the guardian purple (*prætecta*) left me, its timid charge, and my boss (*bulla*) was hung up, an offering to the short-girt Lares."

The bulla was usually made of thin plates of gold, to which was attached a loop of the same metal, through which the suspending cord was passed. Such is the formation of the fine example preserved in the British Museum.

In the terminology of classic art, bulla was used to designate a small boss or stud of metal, so called from its likeness in shape to an air bubble floating upon water. Such bullæ were used for ornamenting sword-belts and harness, and sometimes upon architectural woodwork, such as doors and ceilings.

BULL'S EYE. (*Fr. Œil-de-bœuf. †*) In architectural nomenclature, the term used to designate a small circular or elliptical window, or an opening chiefly for the purpose of admitting air into an apartment, or any space requiring free ventilation.

BULL'S NOSE. In architecture, the name given to an external corner which is rounded in form; it is occasionally, but not so appropriately, applied to an external obtuse angle of a wall. The term correctly implies

* "The golden bulla, hollow, and in the shape of a heart, was borrowed from the Etruscans, and at first confined to the children of nobles. It was afterwards borne, like the '*tria nomina*,' by all who were free-born till they were fifteen. The poorer citizens had it made of leather, or some cheap material. Cf. xiv. 5, *hæres bullatus*.—*The Sat. of Juv.* (Evans' translation.)

† *ŒIL-DE-BŒUF*.—*Jour pris à la partie supérieure d'une salle, soit dans le mur, soit dans le plafond de cette salle, afin de l'éclairer. On donne aussi ce nom aux ouvertures circulaires ou ovales pratiquées dans le haut d'une porte cochère, ou bien aux lucarnes placées au sommet d'un édifice, ou sur la partie mansardée de son toit.*—E. Bosc. *Dict. Rais. d'Arch.*

a *roundness*, like the nose of a bull, and should accordingly only be used to the rounded corner.

BURGONET OR BOURGUINOT. (*Ger. Burgunder Helm.*) In armour, a variety of helmet first used by the Burgundians (hence its name, in all probability,¹) in the end of the fifteenth century. It has a rounded crown with a crest; and is furnished with a lower rim piece, which fits on to the gorget, but allows the helmet to turn at the will of the wearer without exposing the neck. Its front portion was made in two or three movable pieces to admit the head, and afterwards close, to fully protect the face: these pieces were all jointed on two common centres. The burgonet was one of the earliest forms of the close helmet. The visor was frequently modelled as a grotesque mask, or like the fore part of the head of an animal.

BURNT CARMINE. A pigment which, true to its name, is formed by partially charring the carmines of cochineal or madder until they assume a deep purple colour, resembling the purple prepared from gold (the purple of Cassius). The most durable variety is that obtained from madder carmine.

BURNT SIENA OR SIENNA. A pigment, produced by burning raw Siena earth (*terra di Siena*), of a rich orange russet colour. It is a valuable pigment, permanent, and very transparent, considering its earthy origin; perfectly suitable for either water or oil.

BURNT TERRA VERDE. A pigment of a rich brown colour produced, as its name implies, by burning *terra verde*, or the variety known as Verona green. This pigment has also been termed Verona brown; and was much used by Italian painters for shading flesh colours.²

BURNT UMBER. A useful pigment of a russet-brown colour, produced by burning the raw umber earth.³ It is semi-transparent, dries well, and mixes, without injury, with other colours. It is suitable for

¹ Fauchet, who wrote about the end of the sixteenth century, says:—"Ces heaumes ont mieux représenté la teste d'un homme, ils furent nommés bourguinotes, possible à cause des Bourguignons inventeurs."

² "When *terra verde* is burnt over a slow fire, and the heat gradually increased until the pigment is roasted, it is converted into a fine warm brown, which was used, mixed with other colours, by the Italians for the shadows of flesh. Modern writers do not mention this colour, but the use of it has been revived by an eminent English artist, under the name of 'Verona brown.'"—Merrifield, *Original Treatises on the Arts of Painting*, p. cexxii.

³ "Umber, yellow, green, and red earths should all be burnt in the fire, placing them over a slow fire that they may not break from the excessive heat; they are gradually made hotter until they have a most vehement heat and are roasted; they are then sufficiently burnt."—Volpato MS. *Original Treatises on the Arts of Painting*, p. 744.

water, oil, and fresco painting. The old Italian masters called the pigment *FALSALO*.

BURNT VERDIGRIS. A pigment of an olive green colour, prepared, as its name indicates, by submitting verdigris to the action of heat, whereby acid is expelled. It dries well in oil, and is more durable and generally useful than the original verdigris.

BURSARIA OR BURSARY. The late Latin term for the exchequer of collegiate and conventional establishments; that is, the apartment in which money was commonly received and paid.¹

BUSKIN. (*Lat. Cothurnus.*) A description of boot or covering for the lower part of the leg. This article of dress is probably of the greatest antiquity. The classic buskin rose to about the middle of the calf of the leg, though sometimes nearly to the knee: it was commonly worn by horsemen, hunters, generals, and men of rank; and was frequently richly wrought and ornamented. The buskin with thick soles was worn by Greek and Roman tragedians. Diana, the goddess Roma, Mercury, and Bacchus were represented wearing buskins. Certain of the winged figures on the tower of Andronicus Cyrrhestes, or "Tower of the Winds," at Athens, are represented with buskins, from which we can form a correct idea of the ancient pattern, as worn by the Greeks. Several statues and bas-reliefs in existence show us the more ornamental forms worn by Roman generals and patricians.²

During the middle ages, buskins were made of leather for ordinary wear; but kings at their coronation, and bishops while celebrating, wore them of great richness, made of cloth of gold and other costly fabrics. Sandford, in his *Coronation of James II.*, has thus described the buskins worn by the king on that occasion:—"The buskins were made of cloth of tissue, as also the supertunica, and lined with crimson Florence sarcenet. The length of them eighteen inches, the compass at the top fifteen inches, and from the heel to the toe eleven inches." Lenoir describes the buskins found on the legs of abbot Ingon, when his sarcophagus, in the abbey of St. Germain des Prés, was opened. He says:—"They are made of dark violet silk, ornamented with a variety of designs, polygonal in form, upon which are worked greyhounds and birds in gold. They were fastened at top and below by a silk running twist of the same colour, made like the laces of the present time."³ These buskins are very long, covering the leg to above the knee. Pugin remarks:—"The use of the buskin

¹ "BURSARIA, Officina seu conclave Bursarii, ubi creditam servat pecuniam, recipit, et solvit, apud Kennetum Antiquit. Ambrosden. p. 288. & Martenium Anecd. to. I. col. 1348."—Ducange. *Glossarium*.

² Drawings of military and other buskins are given in Hope's *Costumes of the Ancients*, plates 251, 255, 257, 288, 289, and 290.

³ Illustrated in Lenoir's *Musée des Monuments Français*.

(*campagus*), we are informed by a document, about A.D. 666, was anciently confined to the Sovereign Pontiff. By permission from the Pope their use was afterwards extended to the clergy of Rome: and after, by special privilege, to some others. But in the 9th century, buskins were worn by all bishops . . . The buskins are put on by the bishop when preparing for mass, before any other of the sacred vestments, with the prayer *Calcea Domine pedes meos*, &c. 'Let my feet be shod, O Lord, with the preparation of the Gospel of Peace: and protect me under the shadow of Thy wings.'

It must be borne in mind that buskins are altogether different and distinct from sandals. (See *Sandals*.)

BUST. In sculpture, the term applied to a representation of the upper portion of the human body, at most, including the head, neck, shoulders, breast, and portions of the arms. Sculptors have executed busts in various fashions; some examples consisting of merely the head, neck, and a small part of the breast, the arms and shoulders being cut off vertically. Such as the several busts of the Indian or bearded Bacchus in Italian collections. Very commonly they are in bronze, when about the same amount of the breast is represented with folds of drapery artistically disposed; these busts are usually supported on short moulded stands. In some few cases one arm is thrown across the breast, as in some busts of the classic Bacchus. In producing a bust, the sculptor simply aims at giving the head of the subject, with its life-like pose upon the shoulders; beyond this, all is practically immaterial, though demanding skilful treatment so as not to injure the balance of the work: anything which detracts from the dignity and simplicity of the head and neck is to be condemned.

BUTTA OR BUTRO. The late Latin name given to small metallic cups used as lamps. They were suspended by three chains, filled with oil, and furnished with floating wicks. "In some MSS. of the *Liber Pontificalis* we read that Leo III. (795-816) caused to be made for the venerable monastery of St. Sabas, 'butronem [al. buttonem] argenteum cum canistro suo pensantem libr. xii.' Leo IV. (847-855) is also reported by the same authority to have placed in the church of St. Peter, 'butronem ex argento purissimo, qui pendet in presbyterio ante altare, pensantem libr. cxlix'; and another, also of pure silver, 'cum gabatis argenteis pendentibus in catenulis septem' . . . Martene (*de Ant. Eccl. Rit.* iii. 96) describes a *buta* as used for fetching and preserving the Chrism, according to an ancient custom, in the church of St. Martin, at Tours."*

BUTTERFLY. In ancient art, the butterfly or moth was the emblem of the soul; and the Greeks used one word, ψυχή, for both the butterfly and the soul. Keightley gives, in all probability, the correct reading of

* The Rev. S. Cheetham, in *Dict. of Christ. Antiq.* See also Ducange's *Glossarium*, BUTRO.

the symbolism :—"The fondness of this insect for approaching at night the flame of the lamp or candle, in which it so frequently finds its death, reminds a mystic philosopher of the fate of the soul destroyed by the desire of knowledge, or absorbed and losing its separate existence in the deity, who dwelt in light according to the philosophy of the East. But further, the world presents no illustration so striking or so beautiful of the immortality of the soul, as that of the moth or butterfly bursting on brilliant wings from the dull grovelling caterpillar-state in which it had previously existed, fluttering in the blaze of day, and feeding on the most fragrant and sweetest productions of the spring. Hence it was in all probability that the Greeks named the butterfly the *soul*." On a fine bas-relief, at Rome, is the representation of a young man stretched on a couch, and a butterfly issuing from his mouth, evidently intended to express the departure of the soul from the body.

BUTTERY. (*Late Lat. Botellaria.*) An apartment, or sometimes a cellar, in mediæval mansions and monastic establishments in which beer and wine were given out for consumption. The buttery was, along with the pantry, commonly placed adjoining the hall and kitchen; sometimes it was merely separated from the former by a screen. It was under the charge of the "*celarius*," the equivalent of our butler, who first took care to have beer and wine, in sufficient quantity, brought from the cellar or vaults, and then gave them out during the day as required. The *celarius* appears, in monastic establishments at all events, to have been an important personage. In a record relating to Evesham abbey (*Mon. Angl.*), we find that he had the care of the whole abbey, save as regards the returns assigned to the office of the monks; that he administered what was necessary to the stranger, except what the cook, in his proper office, was called upon to supply for religious men. In monastic establishments, the pantry appears to have been included in the buttery, whence all the rations to the inmates were given. In the inventory of the goods of the hospital of St. Edmund, at Gateshead, Durham, is the following passage showing the furniture of the buttery :—"In the buttery (*celeria*), four worn towels, one long hand-towel, three worn napkins, seven spoons of silver three of which are worn and broken, six casks, one barrel, one salt-cellar of brass, two towels of coarse material for the young men, and two tables."

The communication between the buttery and the hall was commonly by a square opening, pierced at a convenient height from the floor; this was termed the buttery-hatch.

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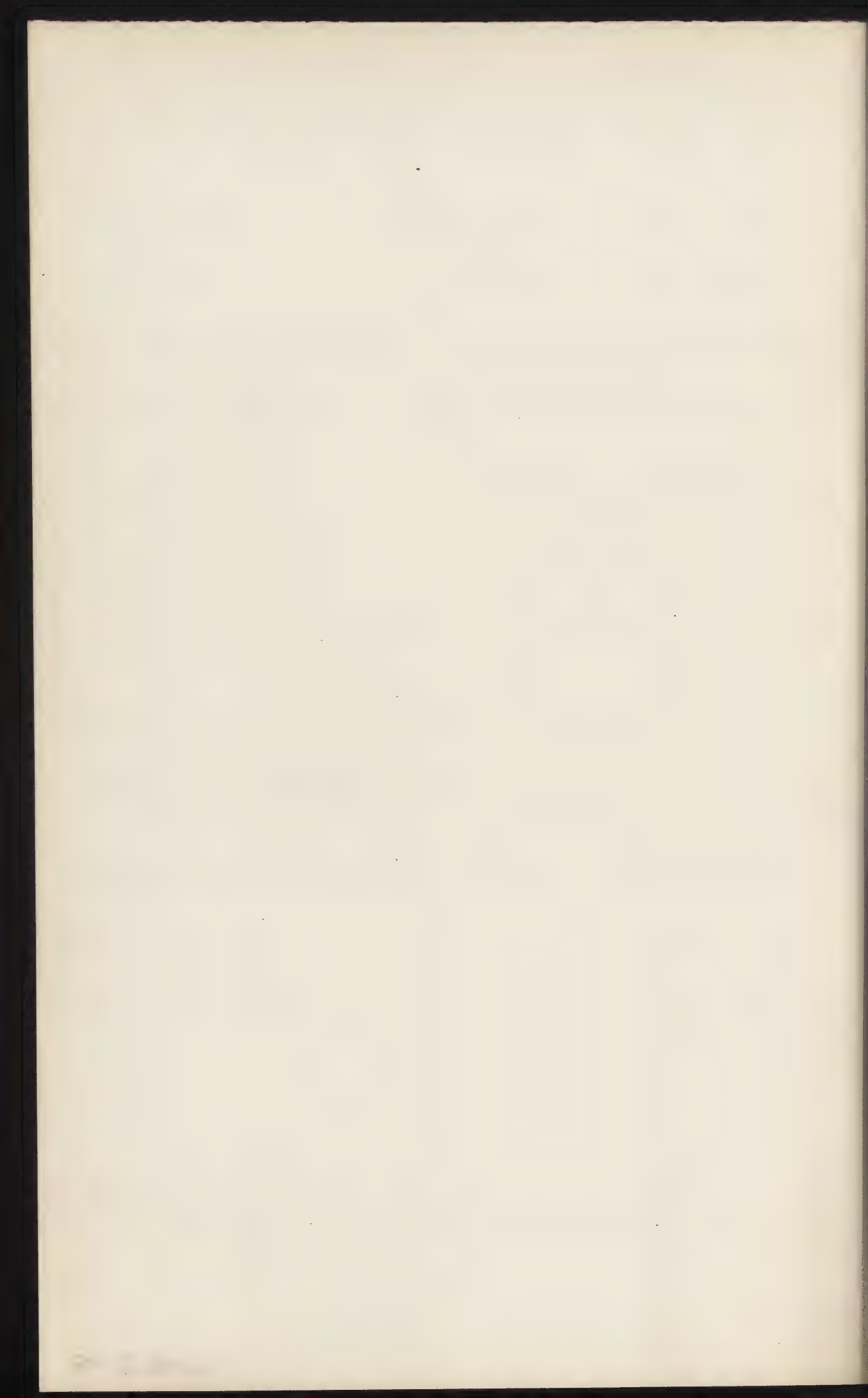
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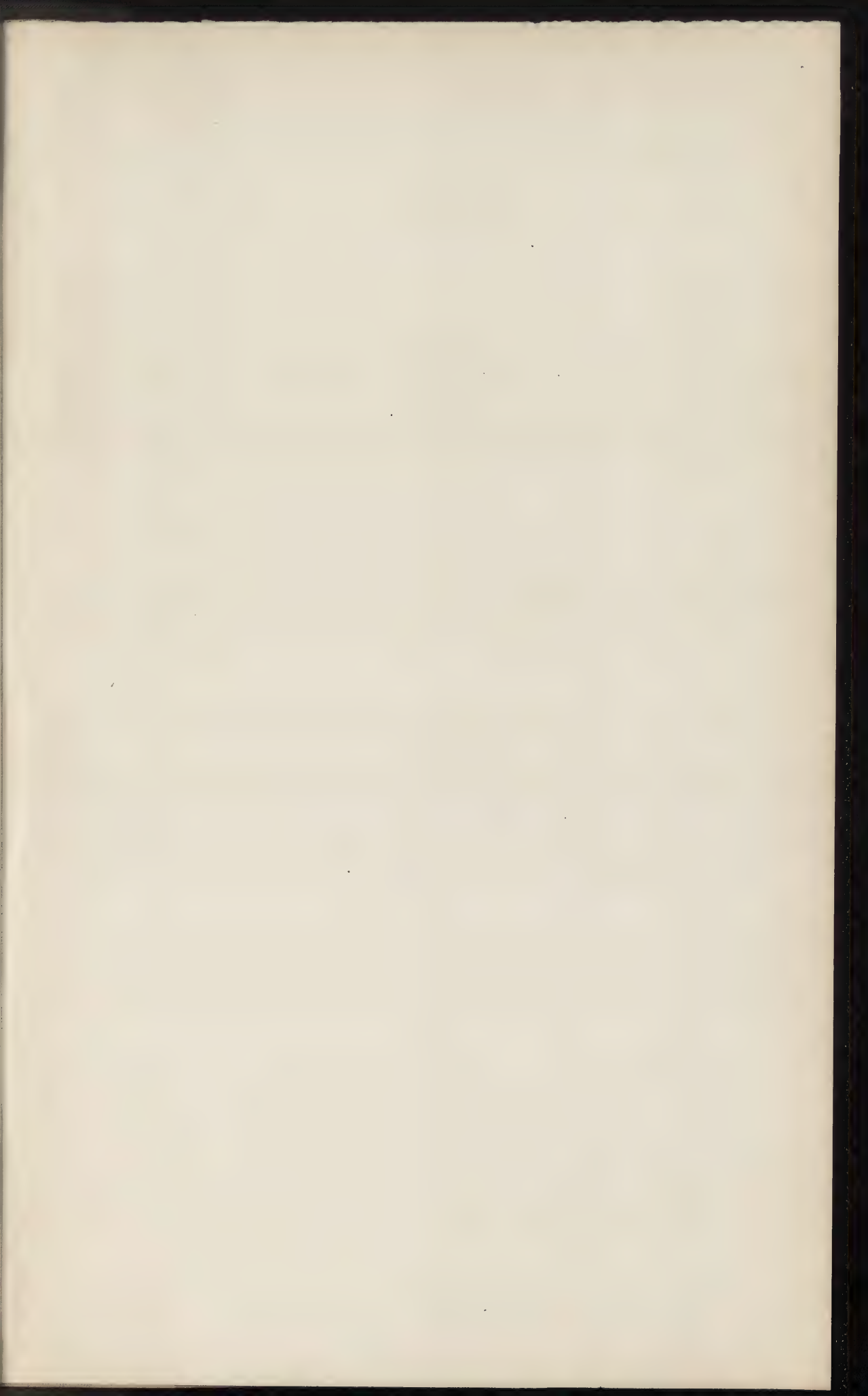
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